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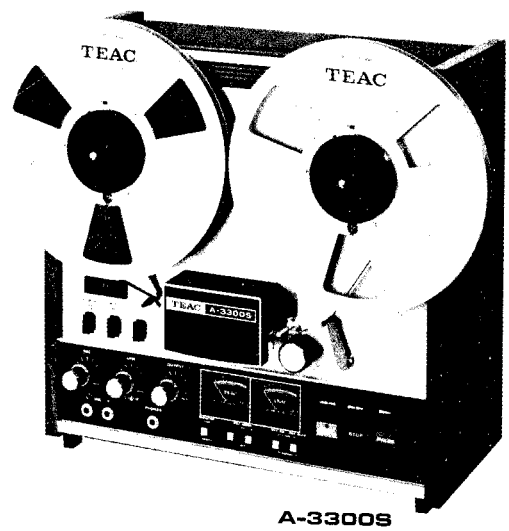
# TEAC®

# A-3300S
# A-2300S
## STEREO TAPE DECK
## SERVICE MANUAL

*ALSO APPLICABLE FOR MODELS*

**TEAC 2300**

A-2300S




A-3300S

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# 1. GENERAL DESCRIPTION

The TEAC A-3300S/2300S is a semi- professional tape deck for stereophonic recording and playback.

| MODEL | TRACKS | TAPE SPEED |
|---|---|---|
| A-3300S-2T | 2 | 15ips, 7-1/2ips |
| A-3300S | 4 | 7-1/2ips, 3-3/4ips |
| A-2300S-2T | 2 | 7-1/2ips, 3-3/4ips |
| A-2300S | 4 | 7-1/2ips, 3-3/4ips |

This service manual provides adjustment and alignment procedures, schematic diagrams and parts replacement information and the proper procedures for obtaining necessary repair parts.

If adjustments or repair procedures are not clear or seem difficult to accomplish or should you desire more detailed technical information, please contact your nearest TEAC dealer, TEAC Corporation or affiliated Corporations, addresses of which are printed in this manual.

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SCHEMATIC DIAGRAM

# 2-1. SERVICE DATA

## A-3300S

### MECHANICAL

| | |
|---|---|
| TYPE: | 4 track 2 channel stereophonic<br>4 track 1 channel monophonic<br>2 track 2 channel stereophonic<br>2 track 1 channel monophonic |
| HEADS: | Erase head x 1 Record head x 1 Playback head x 1 |
| REEL SIZE: | 10" maximum NAB reel |
| TAPE WIDTH: | Standard 1/4 inch tape |
| TAPE SPEED: | 2 track .... 15ips (38cm/s), 7-1/2ips (19cm/s)<br>4 track .... 7-1/2ips (19cm/s), 3-3/4ips (9.5cm/s) |
| MOTORS: | Two 6-pole eddy current motors for reel drive<br>4/8 pole hysteresis synchronous capstan motor |
| WOW AND FLUTTER: | 0.04 at 15ips (WRMS)<br>0.06 at 7-1/2ips (WRMS)<br>0.09 at 3-3/4ips (WRMS)<br>Wow and flutter measured according to weighted (WRMS) NAB standard using TEAC flutter free tape.<br>Above value is measured during playback. |
| FAST WINDING TIME: | Approx. 200 seconds or less with 3600 ft tape |
| OPERATING POSITION: | Horizontal or vertical |
| POWER REQUIREMENTS: | 100 V AC 50/60Hz (108W) |
| WEIGHT: | 44.1 lbs (20 kg) net |

### ELECTRICAL

| | |
|---|---|
| TRANSISTORS: | 2SC1000(BL) x 4 2SC693(G) x 4 2SC828(S) x 6<br>2SA564(R) x 2 2SA494(Y) x 4 2SC536(F) x 2<br>2SC971 x 2 2SC733(Y) x 1 2SD317(P) x 1<br>2SC1226A(R) x 2 2SD235(Y) x 1 |
| FREQUENCY RESPONSE: | Overall from recording INPUT to playback OUTPUT<br>15ips ..... 30Hz∿22kHz ±3dB<br>7-1/2ips ... 30Hz∿20kHz ±3dB<br>3-3/4ips ... 30Hz∿13kHz ±3dB |
| INPUT: | MIC: 0.3 mV/10kΩ<br>LINE: 0.1 V/100kΩ |
| OUTPUT: | LINE: approx. 0.3 V/10kΩ<br>HEADPHONE: 0.3 mW/8Ω |
| SIGNAL-TO-NOISE RATIO: | 15ips ..... 52dB<br>7-1/2ips ... 52dB (2T), 48dB (4T)<br>3-3/4ips ... 46dB or higher at playback |
| BIAS FREQUENCY: | 100 ±5kHz push-pull oscillator |
| CROSSTALK REJECTION: | 35dB or more, adjacent track at 100Hz |
| CHANNEL SEPARATION: | 45dB or more, channel to channel |
| ERASE EFFICIENCY: | 65dB (2T), 68dB (4T) or more at 7-1/2ips |

# 2-2. SERVICE DATA

## A-2300S

### MECHANICAL

| | |
|---|---|
| TYPE: | 4 track 2 channel stereophonic<br>4 track 1 channel monophonic<br>2 track 2 channel stereophonic<br>2 track 1 channel monophonic |
| HEADS: | Erase head × 1, Record head × 1, Playback head × 1 |
| REEL SIZE: | 7" maximum NAB reel |
| TAPE WIDTH: | Standard 1/4 inch tape |
| TAPE SPEED: | 7-1/2ips (19cm/s), 3-3/4ips (9.5cm/s) |
| MOTORS: | Two 6-pole eddy current motors for reel drive<br>4/8 pole hysteresis synchronous capstan motor |
| WOW AND FLUTTER: | 0.08% at 7-1/2ips (WRMS)<br>0.10% at 3-3/4ips (WRMS)<br>Wow and flutter measured according to weighted (WRMS) NAB standard using TEAC flutter free tape.<br>Above value is measured during playback. |
| FAST WINDING TIME: | Approx. 140 seconds or less with 1800 ft tape |
| OPERATING POSITION: | Horizontal or vertical |
| POWER REQUIREMENT: | 100 V AC 50/60Hz (95 W) |
| WEIGHT: | 39.7 lbs (18 kg) net |

### ELECTRICAL

| | |
|---|---|
| TRANSISTORS: | 2SC1000(BL) x 4 2SC693(G) x 4 2SC828(S) x 4<br>2SA564(R) x 4 2SA494(Y) x 4 2SC536(F) x 2<br>2SC971 x 2 2SC733(Y) x 1 2SD317(P) x 1<br>2SC1226A(R) x 2 2SD235(Y) x 1 |
| FREQUENCY RESPONSE: | Overall from recording INPUT to playback OUTPUT<br>7-1/2ips ... 40Hz∿18kHz ±3dB<br>3-3/4ips ... 40Hz∿12kHz ±3dB |
| INPUT: | MIC: 0.3 mV/10kΩ<br>LINE: 0.1 V/100kΩ |
| OUTPUT: | LINE: approx. 0.3 V/10kΩ<br>HEADPHONE: 0.3 mW/8Ω |
| SIGNAL-TO-NOISE RATIO: | 7-1/2ips ... 52dB (2T), 48dB (4T) or higher<br>3-3/4ips ... 48dB (2T), 46dB (4T) or higher at playback |
| BIAS FREQUENCY: | 100 ±5kHz push-pull oscillator |
| CROSSTALK REJECTION: | 35dB or more, adjacent track at 100Hz |
| CHANNEL SEPARATION: | 45dB or more, channel to channel |
| ERASE EFFICIENCY: | 65dB (2T), 68dB (4T) or more at 7-1/2ips |

As a result of continuing changes and improvements during the production run, minor differences may be found between early and later machines. Refer to manual change sheets for information concerning modifications.

# 3. DIMENSIONS A-3300S /A-2300S

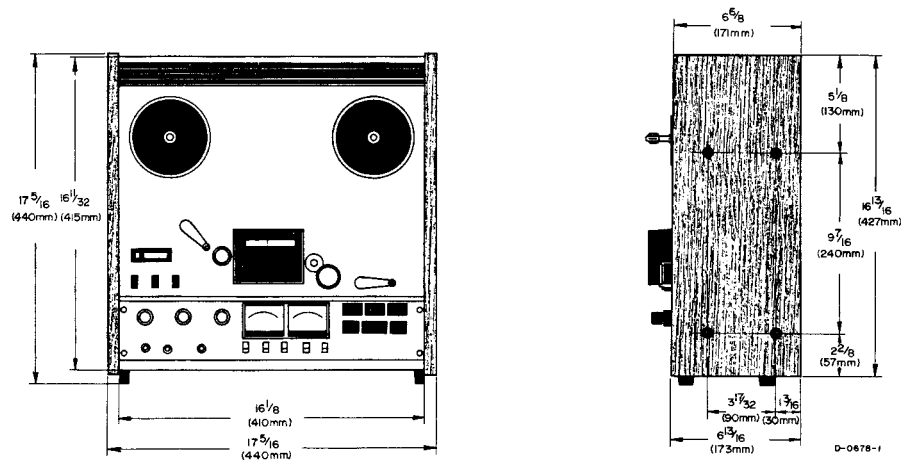



Fig. 3-1 Dimensions -A-3300S-

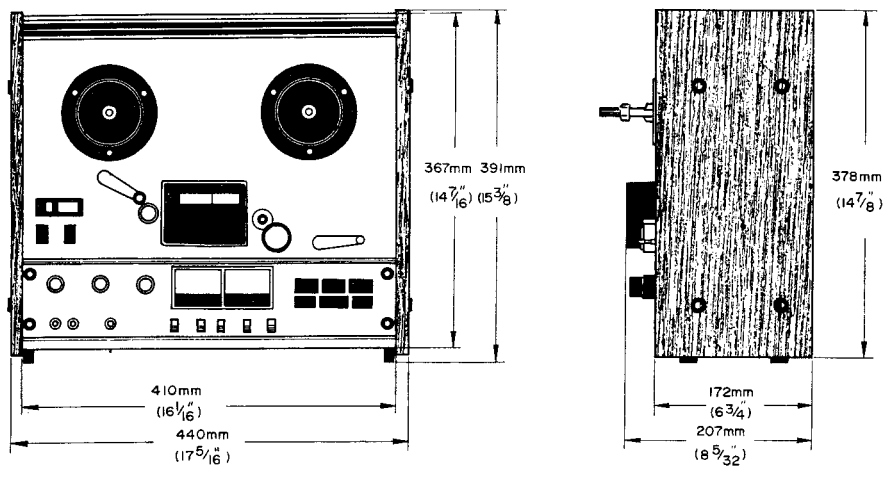



Fig. 3-2 Dimensions -A-2300S-

TOOLS FOR TESTING AND MAINTENANCE

A minimum of the next page tools and test instruments are required for measuring and adjusting to obtain optimum performance. Regular maintenance tools will be adequate for those not listed here. If any test instrument listed here is not available, a close equivalent can be used.

# 4. EQUIPMENT REQUIRED

FOR MECHANICAL MEASUREMENT

| | |
|---|---|
| SPRING SCALE: | 0∿4kg (0∿8 lbs) #5086025000<br>0∿300g (0∿10 oz) #5086026000 |
| TEST TAPE: | TEAC YTT-2004 (15ips)<br>TEAC YTT-2003 (7-1/2ips)<br>TEAC YTT-2002 (3-3/4ips) |
| FLUTTER METER: | Meguro Model MK665B (preferred) or<br>Sentinel FL-3D-1 |
| DIGITAL FREQ. COUNTER: | Capable of 0 to 5kHz indication |
| TOOLS: | General,<br>2 mm nut driver #5086014000,<br>Hex head, allen wrench #5086021000 |

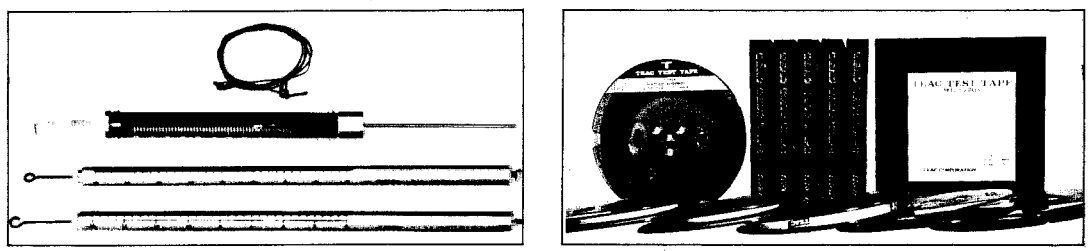


Fig. 4-1 Spring Scale and TEAC Test Tape

FOR ELECTRICAL MEASUREMENT

| | |
|---|---|
| TEST TAPE: | TEAC YTT-1002 for 3-3/4ips<br>TEAC YTT-1004 for 15ips<br>TEAC YTT-1003 for 7-1/2ips<br>SCOTCH 203 and 150 for test recording |
| EMPTY REEL: | TEAC RE-702 (2" hub)<br>TEAC RE-701 (4" hub)<br>TEAC RE-1002 (10" reel) |
| TEST SET: | TEAC M-826A Test Set |
| BAND PASS FILTER: | TEAC M-260A (1kHz) |
| VTVM: | hp model 4302B or equivalent |
| RESISTOR: | Non inductive type 8Ω/1W |
| OSCILLOSCOPE: | General purpose |

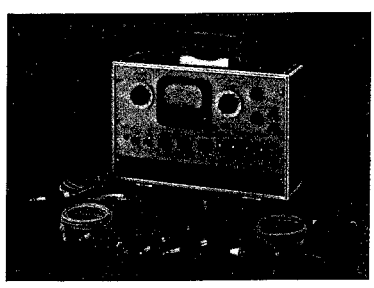


Fig. 4-2 TEAC M-826A

NOTE: Use of the TEAC M-826A test set is recommended. This set incorporates an AC VTVM, Audio Oscillator, Channel Selecting switch, Variable Attenuator, Monitor Speaker and Cables.

TEAC M-826A measures the RMS value of the Voltage (0dB = 0.775V). Characteristics of this test set are similar to the standard VU-meter.

# 5. PARTIAL DISASSEMBLY

## REMOVING WOODEN SIDES AND REAR PANEL

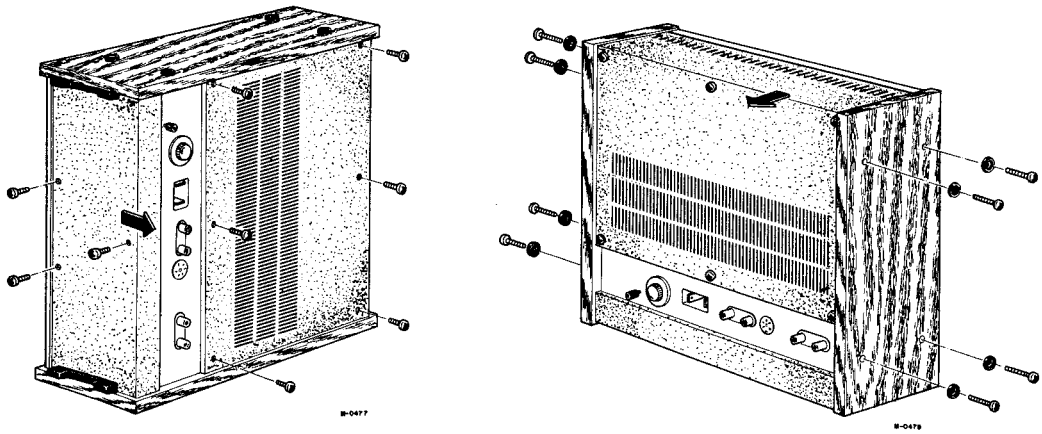


Fig. 5-1 Removing wooden sides and Rear panel

NOTE: All amplifier checks and adjustments can be made from the bottom with the plate removed.
These adjustments should be performed by experienced technicians, and then only when going through the complete test and check procedures on the unit which is being tested.

## HEAD ASSEMBLY REMOVAL

To change the head assembly as a unit,

1. Note the positions of the wires on the circuit board.
2. Unsolder the wires.
3. Remove the 2 mounting screws, replace the assembly.
4. Solder the wires of the new assembly in exactly the same positions.

NOTE: Refer to Fig. 7-2 for wiring

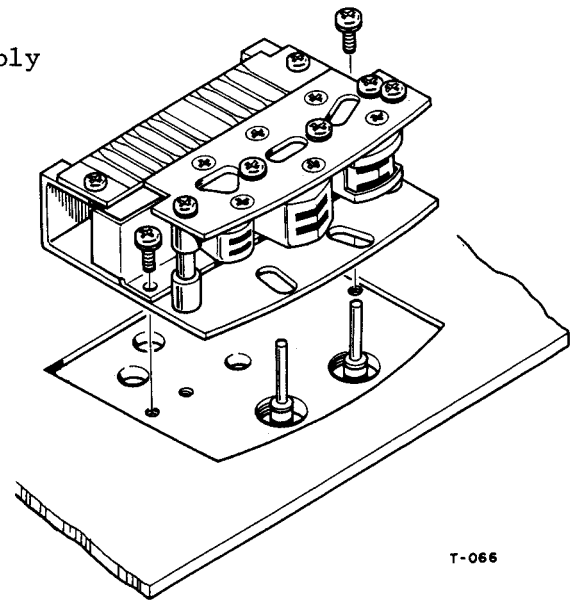



Fig. 5-2 Head Assembly Removal

## REMOVAL OF CAPSTAN MOTOR

1. Remove the 3 screws holding the capstan motor.
2. Unsolder the 6 wires connecting the capstan motor.
3. Remove the 4 screws holding the capstan motor.
4. Loosen the 2 set screws (hex head) in pulley and lift off pulley.

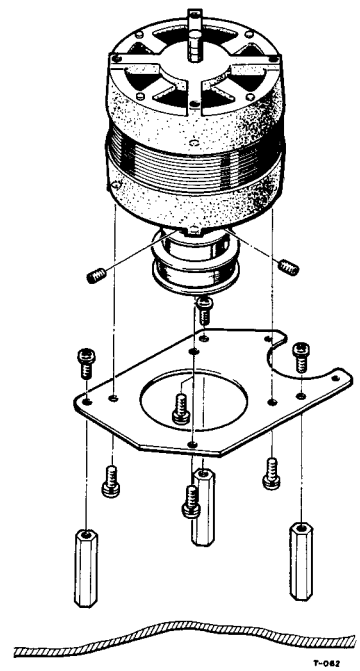


Fig. 5-3 Capstan Motor Removal

## REMOVAL OF CAPSTAN ASSEMBLY

1. Unscrew capstan cover (front panel).
2. Remove 2 screws from rear bracket, allow bracket to drop toward floor of case.
3. Remove capstan belt.
4. Loosen 2 screws in capstan assy flywheel. Remove flywheel.
5. Remove 3 screws in capstan assy.
6. Gently move capstan assy up and down until it slides out of panel.

NOTE: A clearance of 0.01" must be maintained between the flywheel and the capstan assembly.

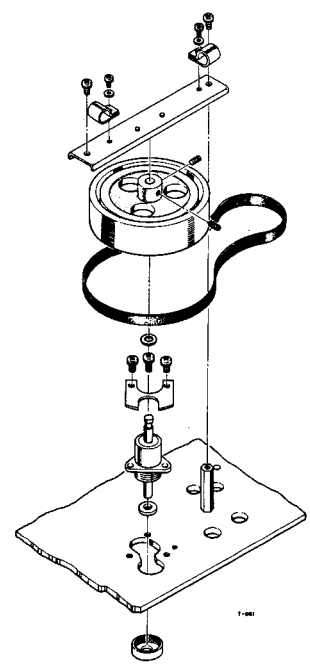


Fig. 5-4 Capstan Assembly Removal

## REMOVAL OF TENSION ARMS LEFT & RIGHT

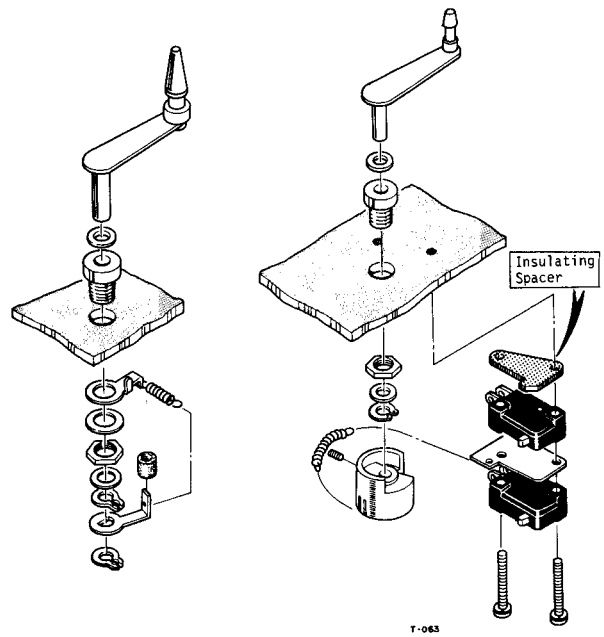
See illustration for complete disassembly instructions.

IMPORTANT

After reassembly check clearance to ascertain that arm moves freely and is not binding.

CAUTION

Do not over-tighten screws holding right tension arm. Insulating spacer and micro-switch are easily broken by excess pressure.




## REMOVAL OF REEL MOTOR ASSEMBLY

1. Loosen 2 hex screws in brake drum, lift off brake drum.
2. Remove 4 screws securing the brake assembly to the motor.
3. Remove reel turntable, remove 4 screws securing motor to front panel.

NOTE: Reel motor assemblies are mirror images of each other, these assemblies are not interchangeable.

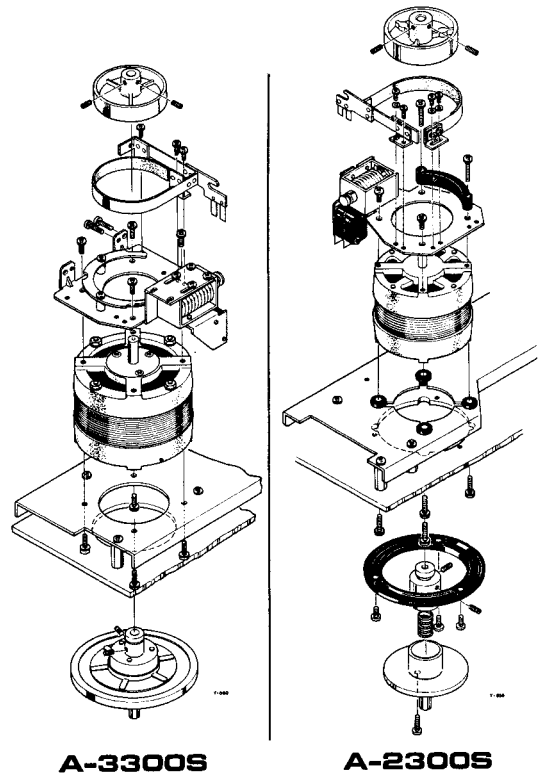
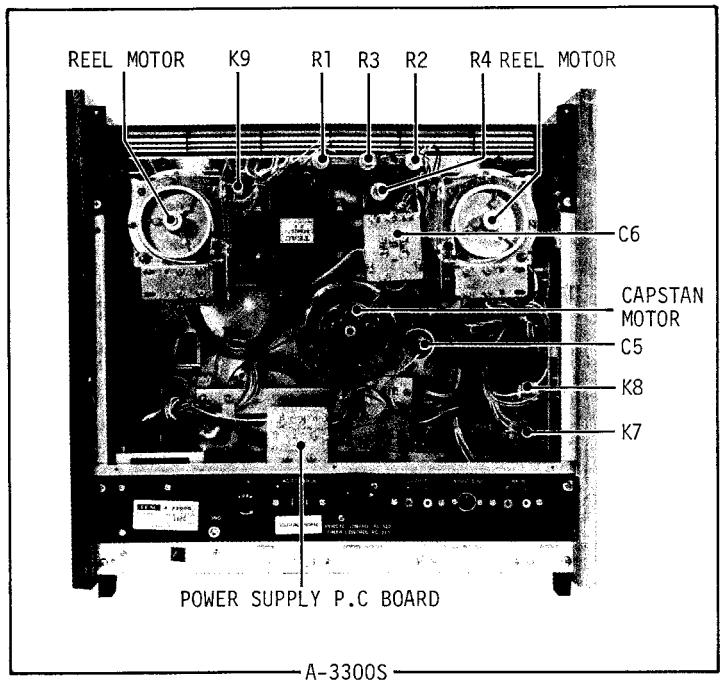



Fig. 5-5 Reel Motor Removal

# 6.TAPE TRANSPORT PARTS LOCATION

-REAR VIEW-

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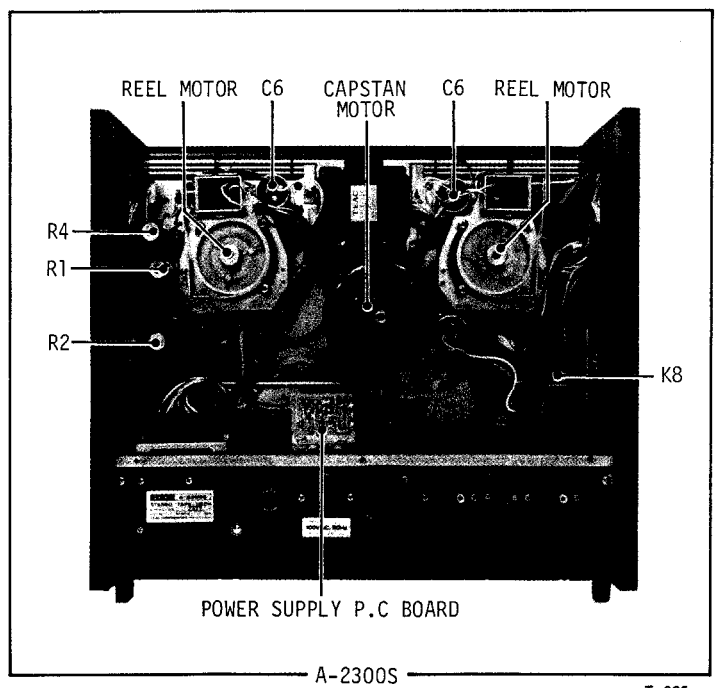
-REAR VIEW-




A-2300S

T-065

NOTE: For ordering parts, refer to the exploded view of the PARTS LIST. An accompanying listing provides the correct part numbers.

# 7. HEAD REPLACEMENT AND ALIGNMENT
## -MECHANICAL-

HEAD REPLACEMENT

NOTE: Head alignment is adjusted at the factory to very critical tolerance. Normally HEAD ASSEMBLY replacement will require only minor alignments or adjustments. Complete readjustment will be necessary after a head is replaced. The adjustments are explained on the next page.

Procedures

To replace a single head, a special 2 mm nut driver is required. Remove the 2 nuts on the defective head through the access hole provided, this releases the head from the mounting plate. Note the position of the wires on the circuit board. Connect the new head in the same manner. Replace the nuts securing the new head to the plate, perform head alignment before operation.

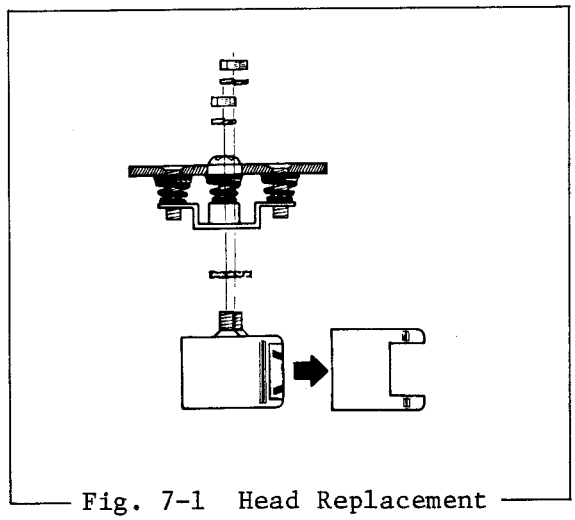


Fig. 7-1 Head Replacement

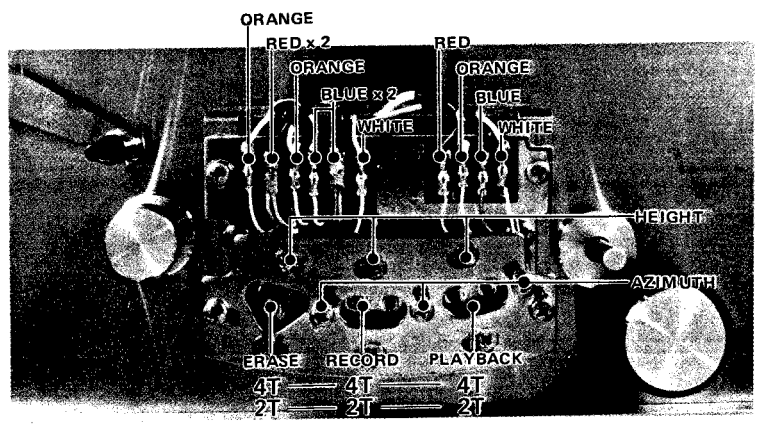



Fig. 7-2 Head Adjustment Screws and Wiring.

# 8. HEAD ALIGNMENT

HEAD ALIGNMENT ( 4 TRACK )

RECORD HEAD: The record head pole should be above the edge of a threaded tape by the width of a thin pencil line.

PLAYBACK HEAD: The forward playback head pole should be even with the top of a threaded tape.

ERASE HEAD: Erase section should be a heavy pencil line above.

HEAD ALIGNMENT ( 2 TRACK )

RECORD and ERASE head are centered on the tape. PLAYBACK head forward section is a heavy pencil line above the edge.

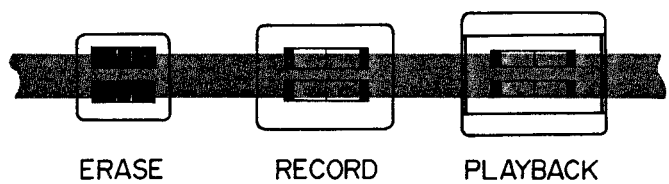



Fig. 8-1 Head configuration and Alignment

MECHANICAL MIS-ALIGNMENT OF THE HEADS -EXAMPLES-

ALIGNMENT - The physical positioning of a tape head relative to the tape itself. Alignment in all respects must conform to rigid requirements in order for a unit to function properly.

AZIMUTH - The angle of a tape head pole-piece slot relative to the direction of tape travel.

NOTE: In order for a tape unit to work at its best, with its own tapes as well as ones made on other units, its play and record heads must be aligned to correct the 4 possible errors as illustrated to the right.

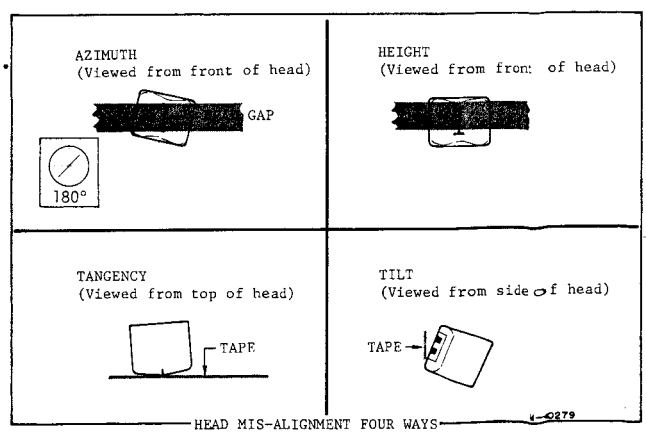



Fig. 8-2 Head Mis-Alignment -Example-

# 9. MEASUREMENT AND ADJUSTMENT
## -MECHANICAL-

The TEAC A-3300S/A-2300S uses a highly reliable 3 motor drive system and should require a minimum of mechanical maintenance or adjustment. These adjustments are made at the factory. Readjustment should only be required after many hours of operation or component replacement.

### PINCH ROLLER PRESSURE

NOTE: Pinch roller pressure is supplied by the pinch roller spring arm and it is most important that the solenoid plunger be fully bottomed before taking pressure measurement.

1. Load tape or block the shut-off arm in the "ON" position.
2. Attach a suitable spring scale to the pinch roller shaft.
3. Place the unit in the PLAY mode ( ▶ ), and holding the spring scale as illustrated, slowly draw it away from the pinch roller.
4. Do not allow the string to rub against the pinch roller.
5. Note the reading on the spring scale at the instant the pinch roller stops rotating.
6. The scale should indicate 2.1∿2.3kg. Optimum value is 2.2kg.
7. If adjustment is necessary, loosen the 3 screws on the capstan solenoid and position the solenoid for optimum pressure.
8. Adjust solenoid-limit position so that the gap between capstan shaft and pinch roller is approximately 7 mm when solenoid is not actuated. Limit is adjusted by loosening the mounting screw (A), Then sliding limit until proper gap is obtained.

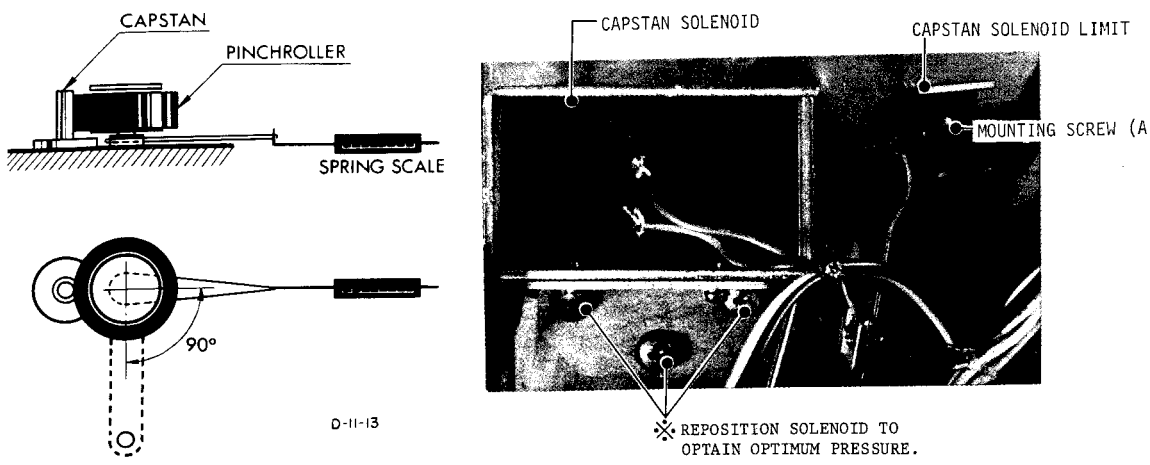



Fig. 9-1 Pressure Measurement and Adjustment Locations

# TORQUE MEASUREMENT PROCEDURE

For Adjustment Locations refer to the following page.

## BACK TENSION

Set REEL switch to the LARGE position (A-3300S)

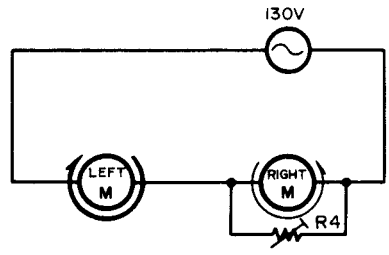
1. Load tape or block the shut-off arm in the ON position.
2. Place an empty 7" reel with a 2" diameter hub on left reel table.
3. Rotate the reel and wind several turns of string around the hub. Attach spring scale to string.
4. Place the unit in the ( ▶ ) play mode.
5. Pull the scale away from the reel against the motor torque, with a steady smooth motion.
6. Note the scale reading while it is in steady motion.
7. Make sure the string does not rub against the reel flanges.
8. The reading should be approximately 300∿320 g-cm (A-3300S only). (180∿210 g-cm for SMALL position on REEL switch or on A-2300S).

## TAKE-UP TORQUE

1. Place the empty reel and attached spring scale on the right reel table.
2. Place the unit in the ( ▶ ) play mode.
3. Allow the rotation of the reel to slowly draw the scale toward the hub.
4. Hold the spring scale with enough force to allow a steady reading.
5. It should be approximately 780∿820 g-cm for A-3300S. (380∿400 g-cm for SMALL or for 2300S).

## REWIND BACK TENSION

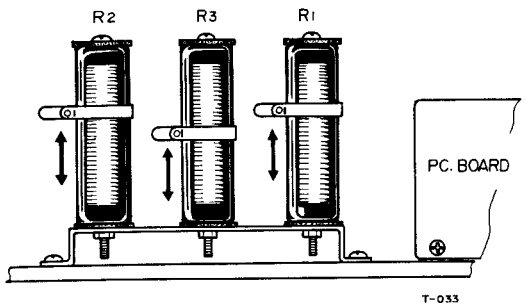
1. Load a full 1,800ft reel of tape (7-1/2") on the right reel table.
2. Place an empty reel with 2" hub on the left reel table.
3. Place the unit in the fast rewind mode.
4. At this time observe the right tension arm. The arm should move approximately 1" to the right and remain there.
5. Check value of R-4 (600Ω) if movement is extremely incorrect. (Located directly below R-1, R-2 and R-3).



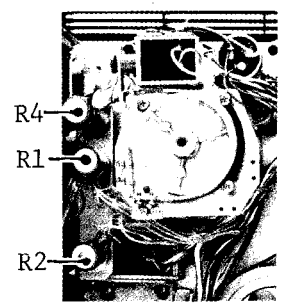
## TORQUE ADJUSTMENT

All Torque and Tension Measurements must be made with the automatic shut-off switch blocked to the "ON" position.

1. Measure the back tension of the left reel motor and the take-up torque of the right reel motor.
2. Adjust R1: LARGE (SMALL) reel ..... TAKE-UP torque
   R2: LARGE reel ..... BACK TENSION
   R3: SMALL reel ..... BACK TENSION
3. Back tension and take-up torque to exact specified limits. Refer to preceding page 9-2 for TORQUE MEASUREMENT PROCEDURE section.
   NOTE: Adjustments will interact. Several adjustments may be required to bring both motors within specifications.




A-3300S




A-2300S

| | A-2300S | A-3300S |
|---|---|---|
| R1 | TAKE UP | TAKE UP (LARGE) |
| R2 | BACK TENSION | BACK TENSION (LARGE) |
| R3 | --------- | BACK TENSION (SMALL) |
| R4 | BACK TENSION FOR FAST FORWARD | |

Fig. 9-2 Adjustment Parts Location

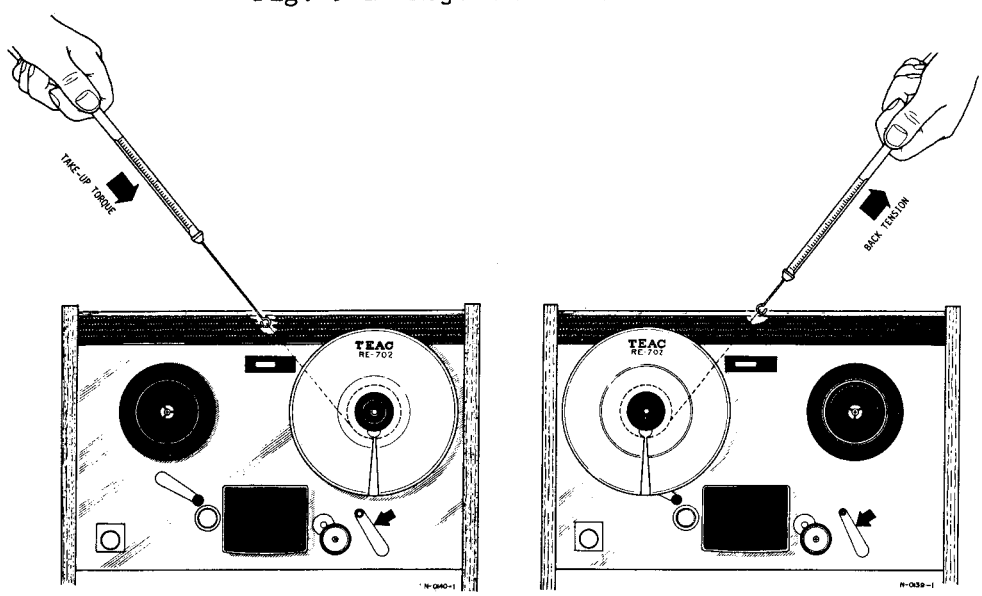



Fig. 9-3 Torque Measurement

## BRAKE TORQUE

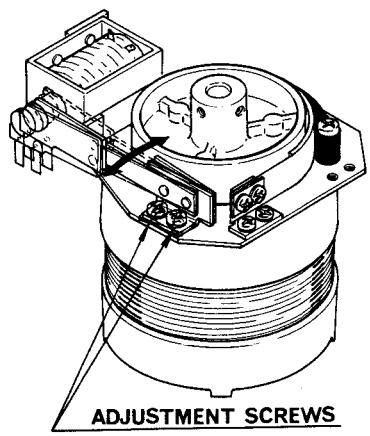
The brake torque is actuated mechanically. Pressure is set by the variable spring force. While making this measurement and adjustment, be careful not to bend the brake bands. As brake torque will change with cleaning, brake drums and brake shoes should be cleaned only when absolutely necessary. If cleaning is required, use TEAC cleaner TZ-261B only. After cleaning operate the machine for a month of normal operation before performing the procedures below.

Brake adjustments are made with "NO" power connected to the equipment.

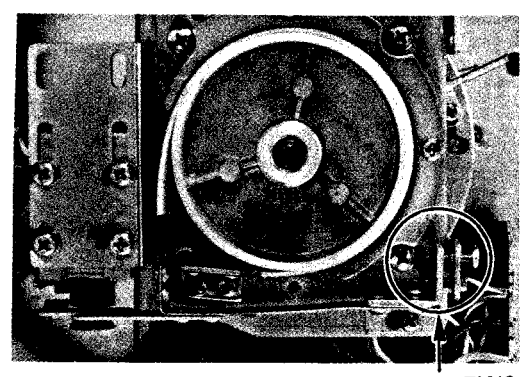
Procedure for Check and Adjustment

1. Place an empty 2" hub reel on the left reel table, and fasten one end of a 30" length of string to the reel anchor.
2. Wind several turns of string counterclockwise around the hub and attach a suitable spring scale to the free end of the string.
3. Take a reading only when the reel is in steady motion since the force required to overcome static friction will produce a false, excessively high initial reading.
4. The reading should be 1.8 kg-cm ±0.2 (25 oz-inch).
5. If adjustment is required, loosen the 2 screws shown and position the brake for optimum torque.
6. The adjustment of the right brake is the same, with the exception that rotations are clockwise.

NOTE: The difference in readings between the right and left brakes should be kept within 100 g-cm (1.4 oz-inch).




A-2300S




A-3300S

Fig. 9-4 Adjustment Location

## REEL HEIGHT ADJUSTMENT

Reel height adjustment is required only if a motor has been replaced or if tape rubs excessively against the side of the reel. Adjustment is accomplished by the FINE ADJUSTMENT screw in the reel turntable. Reel turntable should be adjusted using standard 7" reels. With a tape threaded on the machine, position the reel-height for smooth tape travel.

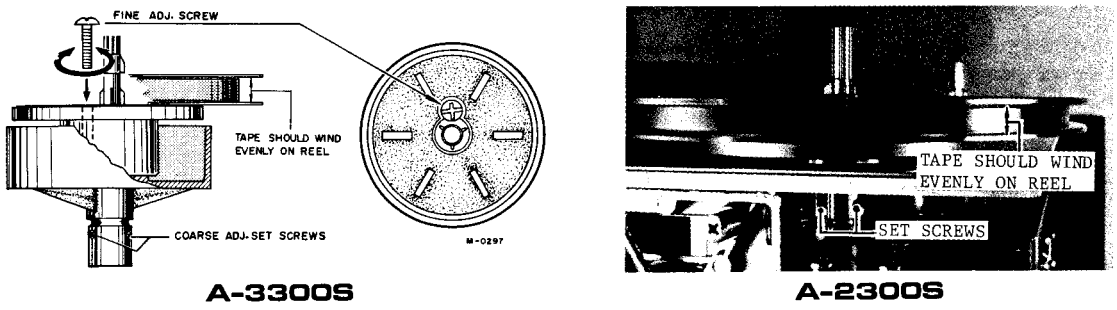



Fig. 9-5 Reel Height Adjustment

## FLUTTER

Flutter should be measured in playback mode using a TEAC flutter free tape YTT-2004, 2003 and Meguro model MK665B flutter meter. Measurement of flutter should be made in accordance with NAB standards.
Values obtained with different standards or equipment cannot be compared.
Flutter should not exceed. 15ips: 0.15% (RMS)
7-1/2ips: 0.18% (RMS)
3-3/4ips: 0.20% (RMS)
These figures apply to any tape position and direction (such as full take-up reel, full supply reel or about mid point).

## TAPE SPEED

The tape speed should be measured using TEAC flutter free tape, model YTT-2004, 2003, 2002. These tapes contain a highly accurate 3 kHz tone. Connect a digital frequency counter to either line OUTPUT jack.
The indicated frequency should be 3kHz ±1% for all speeds.

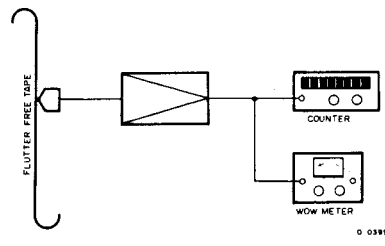



Fig. 9-6 Test Equipment Set-Up

# 10. VOLTAGE AND FREQUENCY CONVERSION

Unit must be set to the power line frequency available. Improper frequency setting will result in a 20% error between the tape speed and reel motors torque. [US model is preset to 117V AC and 60 Hz. No frequency conversion is required.]

NOTE: If it should be necessary to convert the A-3300S/A-2300S deck to operate from a power source of different voltage or frequency, it may be easily accomplished as follows:

Voltage Conversion:

The A-3300S/A-2300S may be set for 100 or 117 volts only. See illustration Fig. 10-1 (Voltage Conversion) and change wiring as shown.

Frequency Conversion:

1. Remove the power cord and all connecting cables.
2. Take off tape deck rear cover by removing the 6 screws holding it.
3. To convert the unit from 50 to 60 Hz operation reposition the capstan belt as shown in the illustration below.
4. Frequency selector slide switch inside the rear of the tape deck must be switched to the frequency of the power line.
5. Reinstall rear cover.

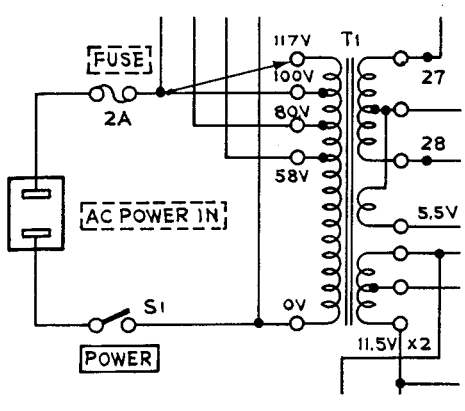



Fig. 10-1 Voltage Conversion

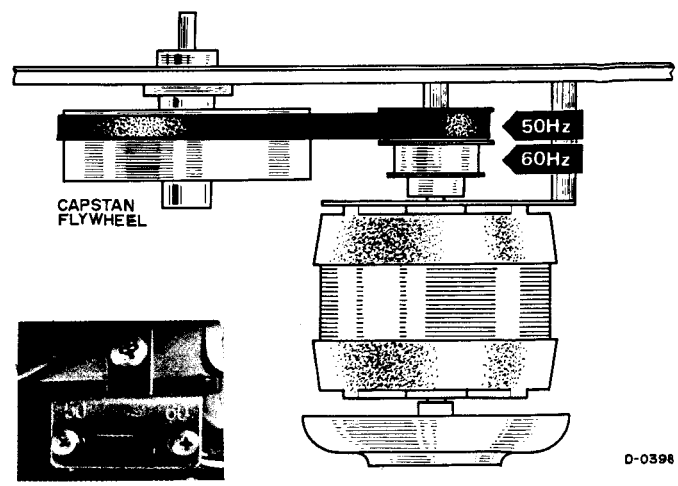



Fig. 10-2 Frequency Conversion

# ELECTRICAL ADJUSTMENT
# GENERAL NOTICE

Before performing maintenance on this unit, thoroughly clean and demagnetize the entire tape path. TEAC maintenance equipment to be used:

TEAC TZ-261 A/B for cleaning
TEAC TZ-255 A/B for oiling
TEAC E-1 for demagnetizing

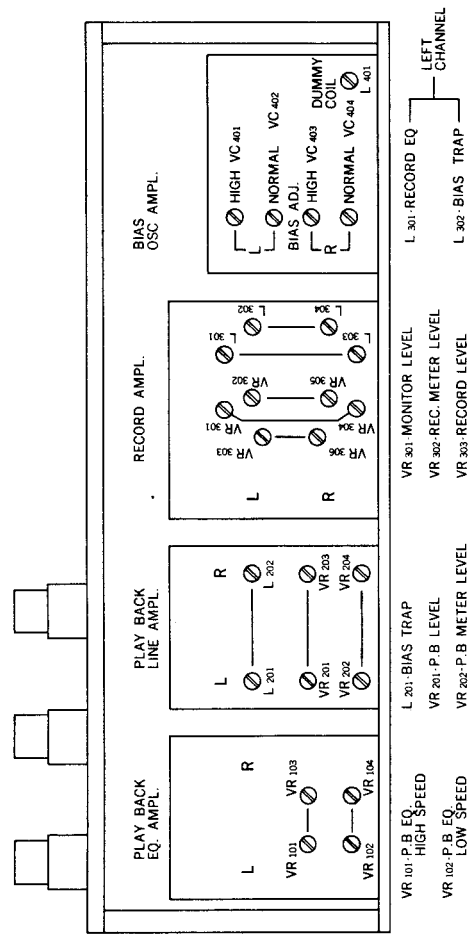
It is important that the unit be set to the proper voltage and frequency for your locality.

TEAC specified standard test tapes and test equipment must be used when performing maintenance to insure reliable results.

Procedures for checks and adjustments, unless otherwise indicated, are for the left channel at a tape speed of 7-1/2ips. The same procedures are to be applied to the right channel and again for both channels at 15ips or 3-3/4ips.

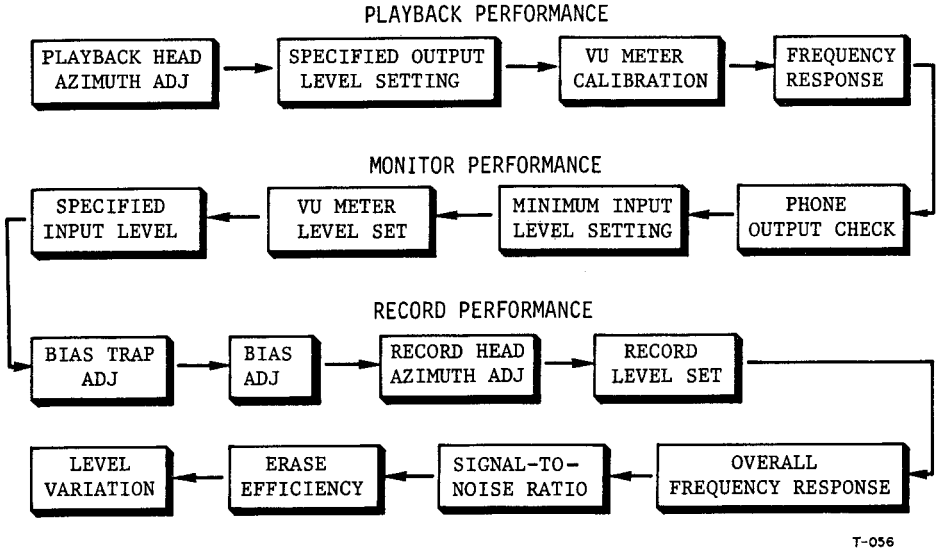
Power supply check and adjustment:
Check the voltage at VR-1 and adjust to +23V DC if required. (Refer to control board on the TAPE TRANSPORT CIRCUIT DIAGRAM.)

**All amplifier check and adjustments can be made from the bottom with the plate removed.**




Adjustment Location

ADJUSTMENT SEQUENCE




T-056

# 11. MEASURMENT AND ADJUSTMENT
## -ELECTRICAL-

PLAYBACK HEAD AZIMUTH ADJUSTMENT

NOTE: After head replacement or if, during playback, a slight pressure on the heads results in a rise of the reading of the Test Set (M-826A), head azimuth adjustments should be accomplished.

Coarse Adjustment:

1. Connect a level meter to either OUTPUT jack.
2. Thread a TEAC test tape YTT-1003 on the unit.
3. Play the 15 kHz test tone in section 2 of the test tape.
4. Slowly rotate the azimuth screw until maximum indication is obtained on the Test Set.

Fine Adjustment:

NOTE: It is absolutely essential to accomplish the coarse adjustment before performing the fine adjustment to avoid phase errors larger than 45°. After coarse adjustment, do not make large corrections, turn azimuth screw 1/4 turn or less.

5. Connect the test equipment as shown in Fig. 11-1 below.
6. Play a 50 Hz∿7.5 kHz signal and adjust the azimuth screw until the oscilloscope shows that the signals are less than 45° out of phase.
7. Secure the screw with a drop of LOCTITE.

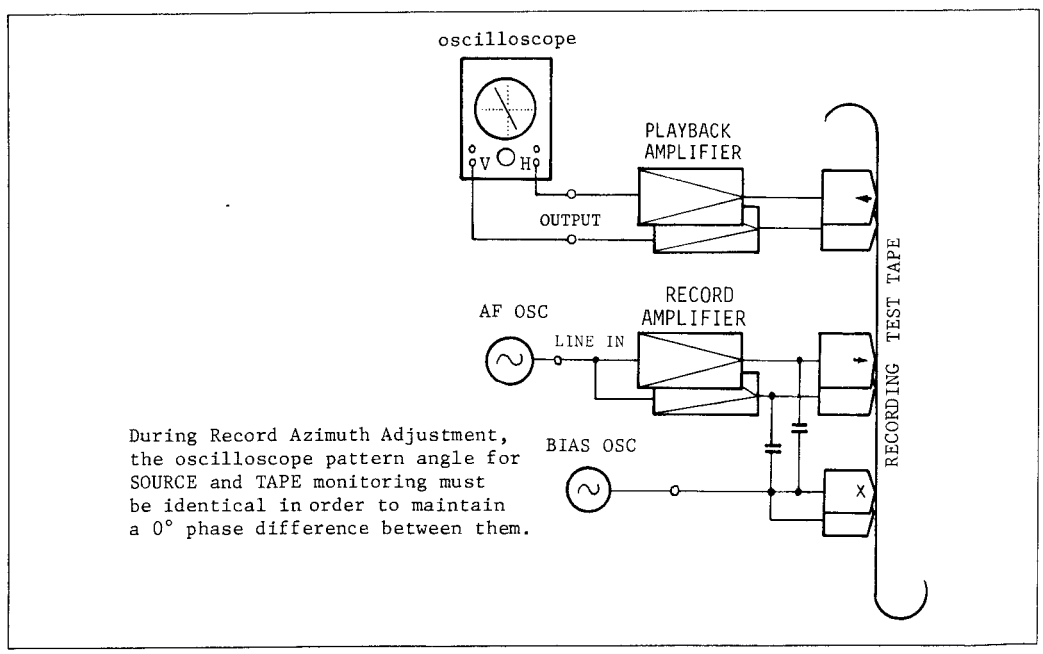


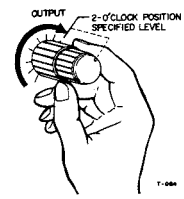

Fig. 11-1 Fine Adjustment Set-up
-Head Alignment-

## SPECIFIED OUTPUT LEVEL SETTING

NOTE: Connect a 10kΩ load to the OUTPUT jacks for all audio measurements when not using TEAC Test Set (M-826A).

1. Place the MONITOR switch to the TAPE position.
2. Turn the OUTPUT control fully clockwise.
3. Thread TEAC test tape YTT-1003 on the unit. Operate at 7-1/2ips. This tape will apply a 400 Hz signal at operating reference level (1% of the THD level).
4. Adjust VR-201/203 to obtain an OUTPUT of -2 dB at the OUTPUT jacks.
5. Align the reference marks of controls so that they are at the 2 o'clock position. This will give approximately -8 dB at the OUTPUT jacks.
6. Readjust VR-201/203 for a -8 dB output level at OUTPUT jacks.

IMPORTANT: This is the specified output level setting. Do not disturb this setting until the remaining adjustments have been completed.




## VU METER CALIBRATION

7. Play the 400 Hz tone (1% THD) in section 1 of the test tape.
8. With MONITOR switch at TAPE position, adjust VR-202/204 for a reading of 0 VU on the VU meter.

## FREQUENCY RESPONSE

1. Place Tape SPEED switch in LOW position.
2. Thread a TEAC test tape YTT-1003 on the unit.
3. Compare the readings obtained on the Test Set with the response limits given in Fig. 11-2.
4. If adjustment is required, adjust VR-102/104 at Low speed.
5. Place Tape SPEED switch in HIGH position.
6. Thread a TEAC test tape YTT-1004 on the unit.
7. Repeat step 3. Check for best frequency response limits.
8. If adjustment is required, adjust VR-101/103 at HIGH speed.

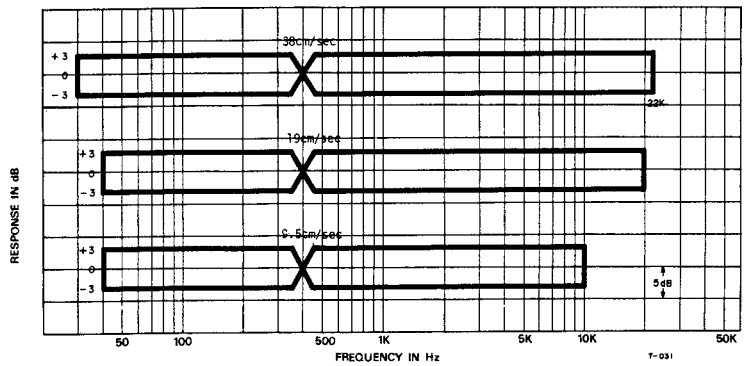



Fig. 11-2 Frequency Response -Playback-

## PHONE OUTPUT CHECK

1. Place OUTPUT control at the Specified Level Setting (400 Hz signal at -8 dB).
2. Connect an 8Ω non-inductive resistor across headphone output. Connect Test Set across the resistor.
3. Test Set should indicate -24 dB ±2 dB.

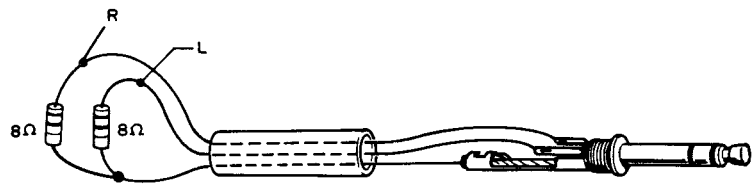



Fig. 11-3 Headphone Connecting Resistor

## MINIMUM INPUT LEVEL SETTING

LINE Input:

1. Connect an AF oscillator to the LINE IN jacks.
2. Place MONITOR switch in SOURCE, EQ switch, BIAS switch in HIGH position.
3. Apply a 400 Hz signal -18 dB to the LINE IN jacks.
4. Turn LINE control fully clockwise, adjust VR-301/304 to obtain the specified output level of -8 dB at OUTPUT jacks.

MIC Input:
[This is a check only. No adjustments are to be made.]

5. After adjusting VR-301/304, apply a 400 Hz signal at -70 dB to the MIC IN jacks.
6. Rotate the MIC controls fully clockwise. It should give an output of -8 dB (specified output level).

NOTE: Return MIC controls fully counterclockwise (CCW) to prevent noise insertion during the following steps.

## VU METER LEVEL SET

Verify it OUTPUT controls are at the specified output level.

1. Place the MONITOR switch to the SOURCE position.
2. Apply a 400 Hz signal at -8 dB to LINE IN jacks.
3. Adjust VR-302/305 for 0 VU (±0.5) on the VU meter.

## SPECIFIED INPUT LEVEL SET

1. Apply a 400 Hz signal at -8 dB to the LINE IN jacks.
2. Adjust the LINE control for -8 dB at the OUTPUT jacks.

NOTE: Do not disturb the specified input level position of these controls until the remaining checks and adjustments are completed. The difference between the channels must not exceed ±2 dB as indicated on the test set. If they are not within limits, check the amplifier gain and the LINE control settings.

Before making any adjustments on the record amplifier, be sure that all tests in the HEAD ALIGNMENT, PLAYBACK and MONITOR PERFORMANCE sections have been accomplished and that all levels are correct.

TEAC A-3300S/2300S is factory set with SCOTCH type 203 (HIGH) and SCOTCH type 150 (NORMAL) tape.

## BIAS TRAP ADJUSTMENT

NOTE: The bias trap tank circuit keeps the bias signal from reaching the record and monitor amplifier and under normal "no signal" conditions, voltage should not be present at the OUTPUT jacks.

1. Place BIAS switch in HIGH position, MONITOR switch in TAPE position and RECORD MODE switches to "ON". Place tape mode switch at the PAUSE position. Depress RECORD and ( ▶ ) buttons.
2. Connect a VTVM or oscilloscope to the junction of C-312/L-302, C-330/L-304 (Right channel).
3. Adjust L-302, L-304 for minimum reading.
4. Adjust L-201, L-202 for the minimum leakage point at the OUTPUT jacks. (on the PLAYBACK LINE AMPL.)

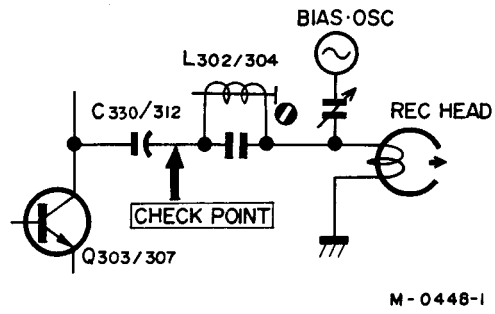



Fig. 11-4 Bias Trap Check Point

## BIAS ADJUSTMENT

NOTE: Adjust bias traps (above) before proceding. The following adjustments are only made at 7-1/2ips (19 cm/s) tape speed. The bias oscillator frequency is 100 kHz (±5 kHz).

NORMAL position

1. Thread record test tape SCOTCH 150 on the unit.
2. Place the REC BIAS switch to NORMAL and place the unit in the record mode.
3. Place the MONITOR switch in the TAPE position.
4. Apply a 400 Hz signal at -8 dB to the LINE IN jacks.
5. Adjust capacitor VC-402/404 for a peak on the test set, then turn the capacitors clockwise until a decrease of 0.5 dB is obtained.

HIGH position

1. Thread record test tape SCOTCH 203 on the unit.
2. Place the REC BIAS switch to HIGH position.
3. Adjust VC-401/403 as in NORMAL position.

## RECORD HEAD AZIMUTH ADJUSTMENT

Coarse Adjustment:

NOTE: The effect of turning the azimuth screw will not immediately register on the test set. A slight delay will be noticed. Therefore, the screw must be rotated slightly with a pause to see the effect.

1. Connect a level meter to the OUTPUT jack and an AF oscillator to the LINE IN jack, then set the AF oscillator to 10 kHz.
2. Make certain that the LINE controls are at the specified input level positions.
3. Place the MONITOR switch to SOURCE and adjust the AF oscillator to obtain a signal of 15 dB below the specified output level. (The test set will indicate -23 dB.)
4. Thread a record test tape on the unit.
5. Place the MONITOR switch in the TAPE position.
6. While recording adjust the azimuth screw for maximum indication on the test set.

Proceed to the next page "Fine Adjustment"

Fine Adjustment:

NOTE: It is absolutely essential to accomplish the coarse adjustment before performing the fine adjustment to avoid phase error larger than 45°.

7. Connect the test equipment as shown in Fig. 11-1.
8. Apply 7.5 kHz signal at -23 dB to the LINE IN jacks and record this signal.
9. Carefully adjust the azimuth screw until the oscilloscope shows the signal to be in phase.
10. Secure the screw with a drop of LOCTITE.

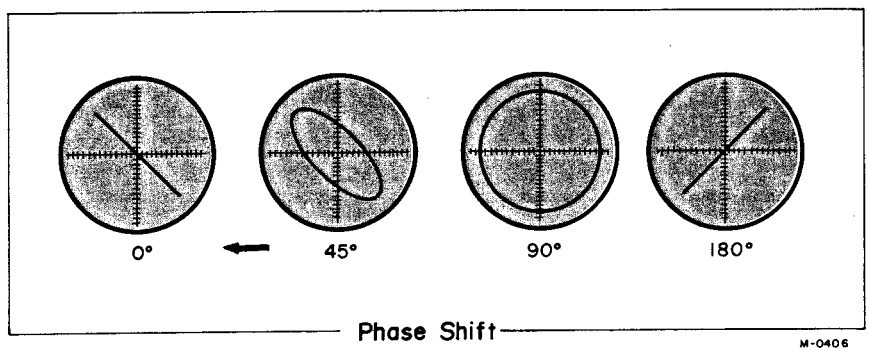



Fig. 11-5 Phase shift

Refer to Fig. 11-1 Fine Adjustment Set-Up (Playback)

## RECORD LEVEL SET

NOTE: The OUTPUT control must be at the specified output level position (-8 dB at OUTPUT jacks), and the LINE INPUT controls at the Specified Input Level Setting.

1. Apply a 400 Hz signal at -8 dB to the LINE IN jacks.
2. Thread record test tape SCOTCH 150 on the unit, then set the REC BIAS switch to NORMAL position.
3. Place the MONITOR switch in the TAPE position, LINE and OUTPUT controls to specified level position, put unit in the RECORD mode.
4. Adjust VR-303/306 for -8 dB signal at OUTPUT jacks.

## OVERALL FREQUENCY RESPONSE

NORMAL position

1. Thread a blank SCOTCH 150 tape on the unit, place REC BIAS switch at NORMAL, TAPE SPEED at LOW, MONITOR switch at TAPE position.
2. Apply a signal swept from 30 Hz to 20 kHz at -23 dB to LINE IN jacks and record it on the tape.
3. While the unit in the RECORD mode, adjust L-301/303 for best response.

HIGH position

4. Thread a blank SCOTCH 203 tape on the unit. Place REC BIAS switch at NORMAL position, TAPE SPEED switch at HIGH.
5. Apply a signal swept from 30 Hz to 20 kHz at -23 dB to LINE IN jacks.
6. Repeat overall response check at both speeds.

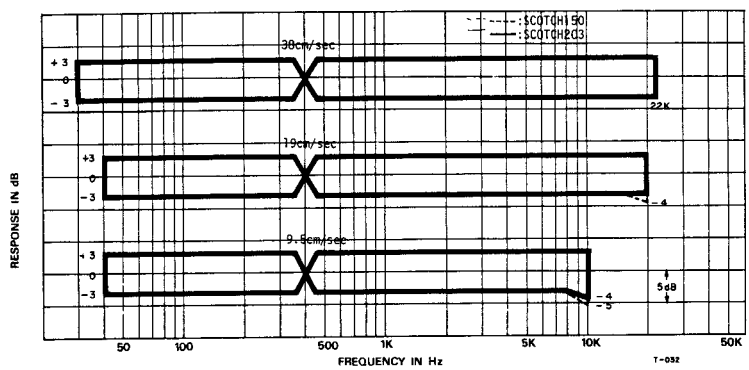



Fig. 11-6 Frequency Response Limits.

## MONOPHONIC RECORDING

L-401 (DUMMY) Coil ••• This must be checked on monophonic recording as in the following procedures:

1. Place the Record Mode switch L (or R, not both) to "ON" and R (or L) to the "OFF" position.
2. Record the signals swept from approx. 40 Hz to 20 kHz at -23 dB.
3. If necessary, adjust L-401 for best response.

# SIGNAL-TO-NOISE RATIO

## PLAYBACK

IMPORTANT

OUTPUT controls should be at the Specified Output Level settings. The signal-to-noise ratio must meet factory standards. The values given are obtained using an unweighted test set (M-826A) while the supply and take-up motors have voltage applied but are not rotating. The values are with reference to a 3% THD peak recording level.

1. Thread a blank SCOTCH 203 tape on the unit leaving the tape outside the capstan and pinch roller.
2. Place the unit in the PLAY mode ( ▶ ) (the tape will not move using PAUSE).
3. The test set connected to the OUTPUT jacks should indicate -56 dB or less.
4. This corresponds to a signal-to-noise ratio of 48 dB (difference between residual noise -56 dB and specified output level -8 dB for 1% THD). For a 3% THD signal-to-noise ratio, -6 dB is added, giving 54 dB (3% THD is 6 dB above 1% THD level).

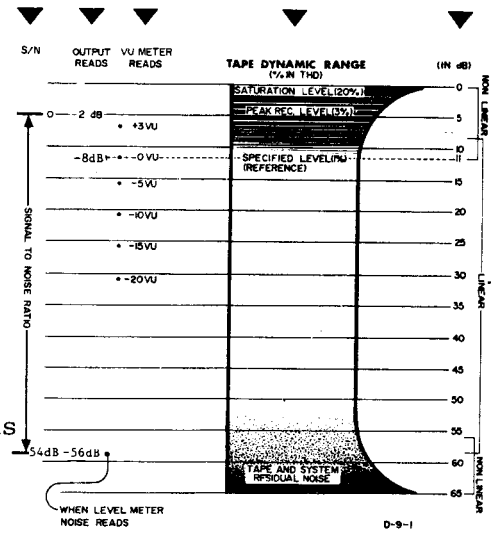



Fig. 11-7 Signal/Noise Computation

## OVERALL

IMPORTANT: Clean and demagnetize the heads before proceeding. It is extremely important that all tests described in the preceeding paragraphs have been completed and that all controls are left at their specified settings.

1. Thread a blank test tape SCOTCH 203 on the unit.
2. Remove the AF oscillator from the LINE IN jacks.
3. Place the unit in the RECORD mode with "no signal" applied. Note the point on the index counter where recording begins.
4. Rewind the tape to the beginning point and play it back.
5. The noise level as indicated on the test set should be -54 dB or less.

NOTE: Bias, erase and playback amplifier noise are all included in this measurement. All frequencies between 40 Hz and 15 kHz are measured unweighted.

## ERASE EFFICIENCY

NOTE: To measure erase efficiency, a 1 kHz Band Pass Filter (TEAC M-204 CL filter) must be used.

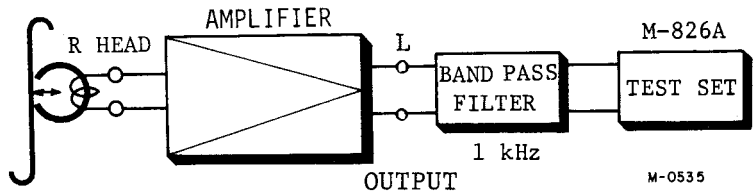



Fig. 11-8 Erase Efficiency Check Set-Up

1. Apply a 1 kHz signal at 0 dB to the LINE IN jacks.
2. Place the unit in RECORD mode and record this signal.
3. Rewind the recording to the beginning and remove the AF oscillator from the LINE IN jacks.
4. Connect a test set to the OUTPUT jack through the 1 kHz Band Pass Filter, select TAPE monitor.
5. Place the unit in RECORD mode and "record" (erase) over this portion of tape. Monitor the tape output on the test set.
6. The test set should indicate -65 dB (2T), -68 dB (4T) or less.

## LEVEL VARIATION

1. Thread a blank reel of high output tape SCOTCH 203, and select 7-1/2ips (19 cm/s).
2. Record a variety of frequencies, such as 400 Hz, 2 kHz, 5 kHz, 8 kHz, 10 kHz, etc., at the specified input setting with the RECORD BIAS switch in HIGH position. Record approximately 10 seconds at each frequency.
3. During playback at 7-1/2ips the output level should not vary more than 0.5 dB at 400 Hz, 1 dB at 5 kHz to 10 kHz.
   With the unit at 3-3/4ips, the tolerances are the same as at 7-1/2ips.

# 12. SERVICING AND MAINTENANCE

1. Power supply

   Make sure that the power supply is stable at the rated voltage. Fluctuations will result in uneven tape speed, and wow and flutter in the recorded signal.

2. Cleaning the heads

   TEAC TZ-261A for Head cleaning, TZ-261B for Rubber cleaning must be used.

3. Lubrication

   Lubrication should not be required unless a part has been replaced. First wipe off old oil, grease and dirt. Apply 1 or 2 drops of TEAC TZ-255 oil to all plastic tube for motors and pinch roller shaft. Grease other moving parts lightly with DAW DC33L or MOLYCOAT.

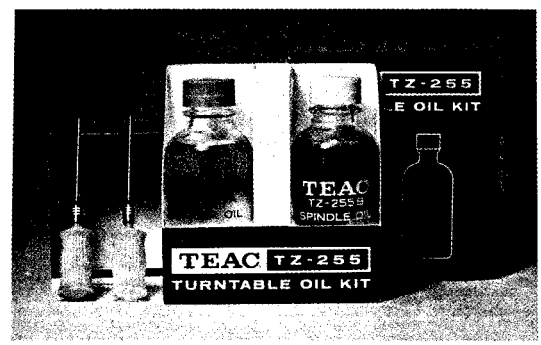
   NOTE: If the motor pulley, capstan belt, flywheel and pinch roller become soiled with oil or grease, slippage will occur. Remove all traces of oil with TZ-261 A/B.

4. Demagnetization of the head

   If the record or playback head become magnetized, noise will increase and fidelity will deteriorate. For this reason it is advisable to use non-magnetic tools when working near the head. In cleaning, tweezers of brass or other such non-magnetic and relatively soft material are preferred. Similarly, the use of a tester or vacuum tube ohm-meter should be avoided in connection with the head, as these instruments operate by applying a DC current, and will thus induce magnetism. If the heads have had any contact with currents or metal parts, demagnetize them with a TEAC E-1.

TEAC MAINTENANCE FLUIDS

TEAC TZ-261
Cleaner

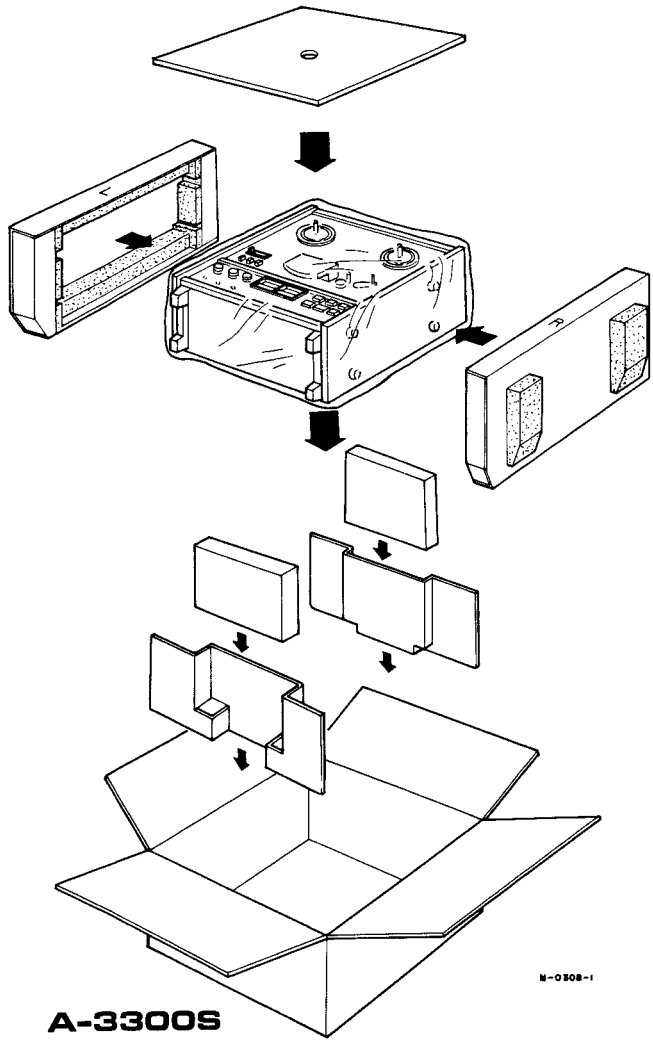



TEAC TZ-255
Oil Kit

# 13. PACKING FOR SHIPMENT

SHIPPING INSTRUCTIONS

If the unit is to be returned to a TEAC factory service Center for repair, carefully pack as shown below.



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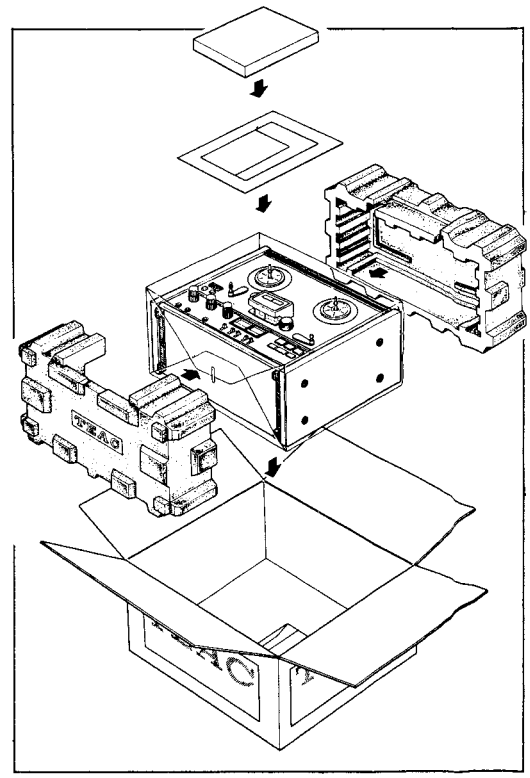


A-2300S

# 14. WARRANTY

Your TEAC equipment has been manufactured under the strictest quality control and is covered by warranty under normal operation. However, warranty terms may vary with the country (area) in which it was purchased and for different models of equipment.
The warrenty terms are fully described on the warranty card. Please read the card for complete details. Include a copy of the warranty in the package when you return the equipment to an Authorized Service Center.

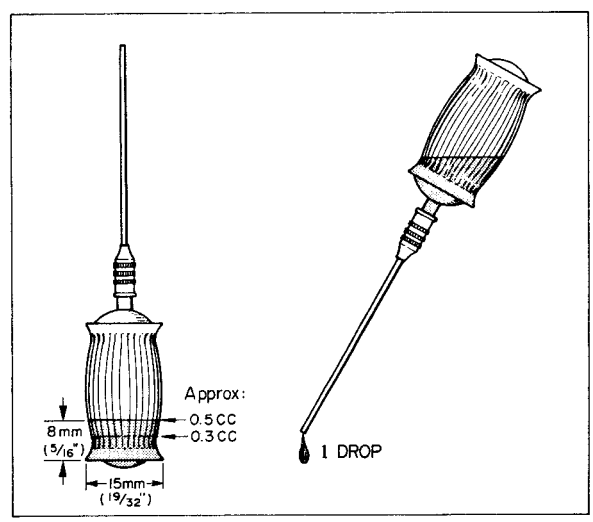
# 15. TROUBLE SHOOTING

NOTE: The following guide lists specific difficulties that could occur in the A-3300S or A-2300S.
Possible causes are listed for each malfunction. Visually inspect the unit for any damage such as broken or burned components or wiring, loose connections, etc.

| MALFUNCTION | POSSIBLE SOURCE OF TROUBLE | CORRECTIVE PROCEDURE |
|---|---|---|
| Capstan fails to turn | Belt off or slipping, line fuse, safety switch(SW-2), speed select switch(SW-12), phase advance capacitor (C-5), rewind play relay (K-3) | Repair or replace the defective components. |
| Pinch roller fails to contact capstan in play mode | Operation relay(K-1), Start relay(K-7), rewind relay(K-3), STOP micro-switch(S-4), PLAY ( ▶ ) micro-switch(S-7), capstan solenoid | Refer to schematic diagram and repair or replace the defective components. |
| Right reel motor does not rotate in play mode. | Reel motor(right), brake solenoid, rewind relay(K-3), resistor(R-1) | Replace the defective components. |
| Left reel motor does not rotate in play mode. | Reel motor(left), brake solenoid, rewind relay(K-3), resistor(R-2) | |
| Both motors fail to operate. | Operating relay(K-1), start relay(K-7) | |
| Recorder does not operate in PLAY ( ▶ ) | Remote control jumper plug missing or loose, STOP micro switch(S-4), brake solenoid, resistor(R-3), rewind relay(K-3), phase advance capacitor(C-5) | Normal DC resistance of the brake solenoid is 1.3k ohms. Refer to schematic diagram and repair or replace the defective components. |
| Playback noise or hum | Faulty connections, head selector switch, faulty playback head, faulty amplifier | Repair or replace defective components. |
| Noise or hum during record | Magnetized head, faulty connections, MIC level set to maximum, faulty record amplifier, record relay (K-401) | Demagnetize and clean head, repair or replace defective components, check MIC VR. |
| Wow and flutter | Defective tape, dirty or defective pinch roller and pressure oily or defective belt, reel motor tension | Clean or replace defective components. Adjust motor tension |
| Incorrect tape speed | Drive belt in wrong position. Incorrect pinch roller pressure. | Reposition drive belt. Adjust pinch roller pressure. |

| MALFUNCTION | POSSIBLE SOURCE OF TROUBLE | CORRECTIVE PROCEDURE |
|---|---|---|
| Brakes do not release | Defective brake solenoid | The D.C resistance of the brake solenoid should be 1.6k ohms. Replace solenoid. |
| Fast forward or rewind mode inoperative | Rewind relay(K-3) | Refer to schematic diagram and repair or replace the defective components. |
| No record and/ or no erase | Record head dirty, erase head dirty, operate relay (K-1), record relay(K-401), REC micro switch(S-8), record amplifier, bias OSC, record head, erase head | Refer to schematic diagram and repair or replace the defective components. |
| No playback | Playback head defective or dirty, amplifier-to-deck connections, monitor switch (SW-501), playback amplifiers | Refer to playback amplifier voltage chart. |

TEAC Oil Syringe
-example-




Reading for Color Code
-Resistor-

Reading for Color Code -Resistor-

| Color | BLK | BRN | RED | ORG | YEL | GRN | BLU | VIO | GRY | WHT | GOL | SIL | Plain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BAND No.1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| No.2 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| No.3 | $10^0$ | $10^1$ | $10^2$ | $10^3$ | $10^4$ | $10^5$ | $10^6$ | $10^7$ | $10^8$ | $10^9$ | $10^{-1}$ | $10^{-2}$ | |
| No.4 | (Tolerance) | | | | | | | | | | 5% | 10% | 20% |

Example: No.1 BRN 1
No.2 BLK 0
No.3 GRN 10
No.4 GOL ±5% Follow: Reading 1MΩ ±5%

# TEAC®

# A-2300S
# A-3300S

STEREO TAPE DECKS

## PARTS LIST

**FIRST REVISED EDITION**

### REPLACEMENT INFORMATION

Replacement parts are available through your nearest TEAC Authorized Service Center or directly from the TEAC office.
Changes are constantly being made to make TEAC products better and more reliable. Therefore, when ordering parts, always include the following information:

*MODEL* *SERIAL NO.* *REF.NO.* *PARTS NO.* *DESCRIPTION*

### PARTS IDENTIFICATION CODING

Parts are identical between the different models with the exceptions as coded by the designations explained below.

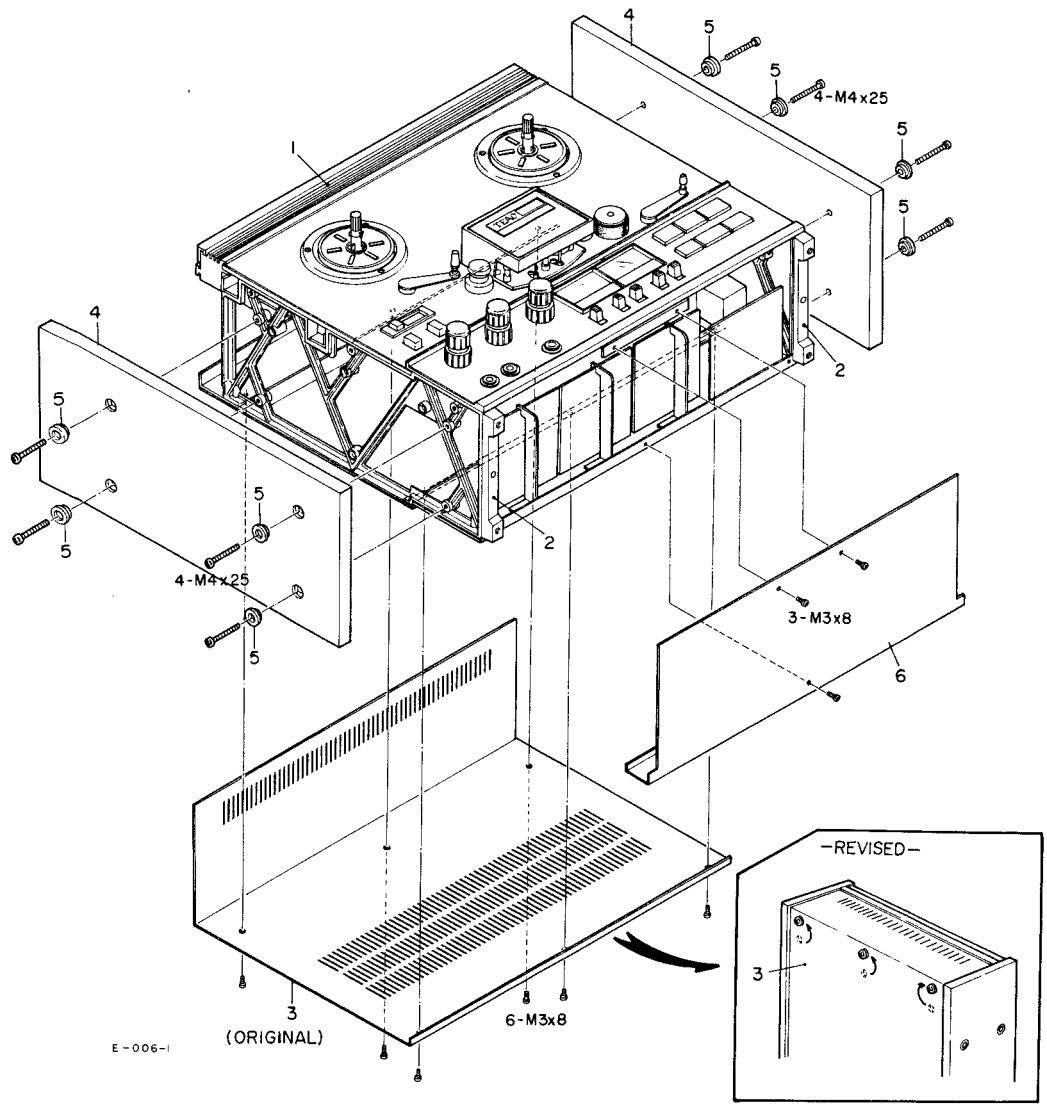
| | |
|---|---|
| *A-2300S* | For all markets, 2300S and A-2300S only, 4 track or 2T. Written in italics. |
| *A-3300S* | For all markets, 3300S and A-3300S only, 4 track or 2T. Written in italics. |
| DM | Only for domestic (Japan) market decks. |
| TCA | For TEAC Corporation of America (US) decks. |
| 4T | For decks with the 4 track head configuration (standard). |
| 2T | For decks with the 2 track head configuration. (These decks have 2T included in the nomenclature, i.e., *A-2300S*-2T). |

Effective : June, 1974
Latest Revision No.: E-670

TEAC CORPORATION

51030871

# 1. TRIM PARTS
## A-2300S




The location of the top cover mounting screws have been changed as indicated.

From SER. NO. 19131 to Present

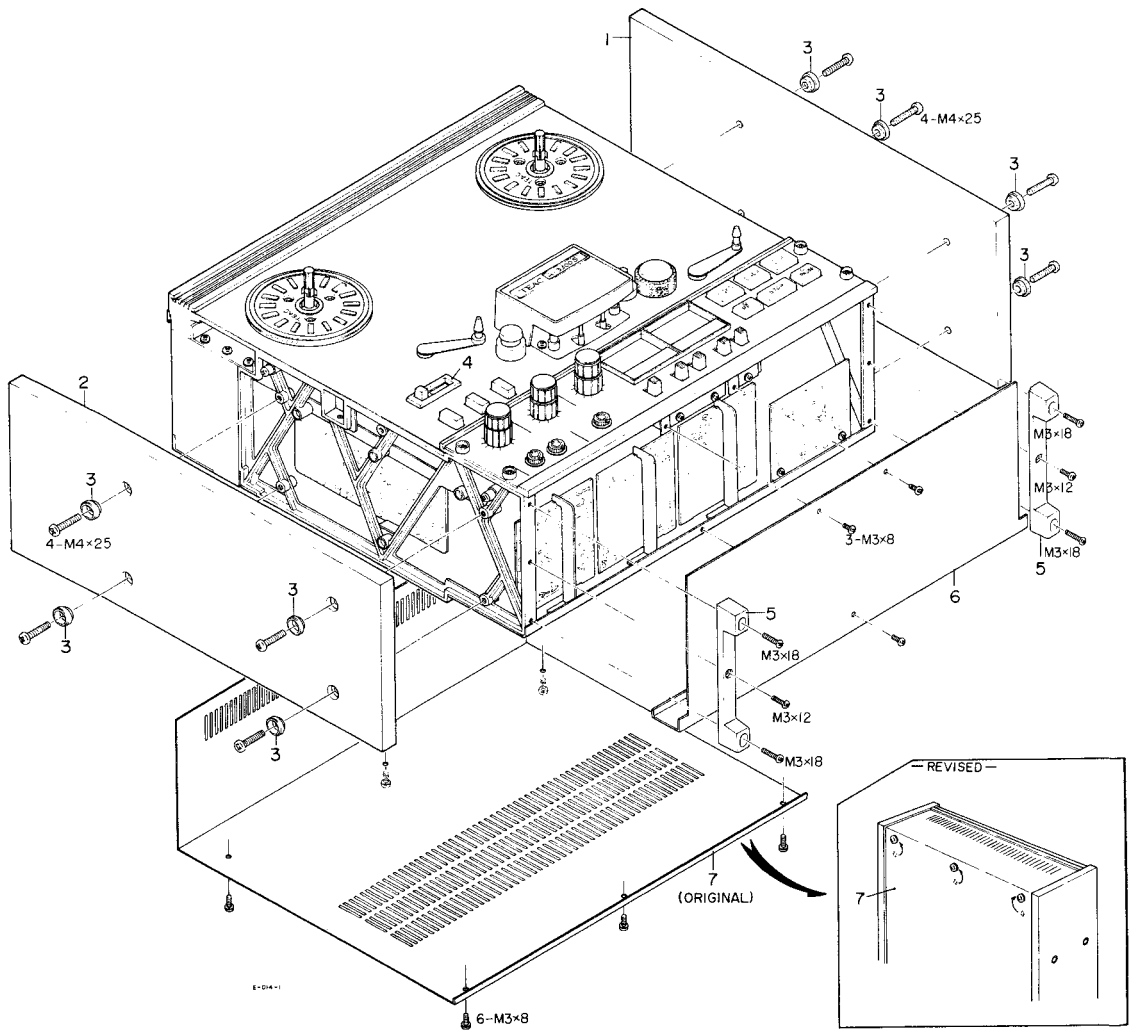
## PARTS LIST-1

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 1-1 | 50112980 | Grille Assy, Top | |
| 1-2 | 50277980 | Leg, Case | |
| 1-3 | 50288291 | Cover Assy, Rear | *50288292 |
| 1-4 | 50288331 | Wooden Plate | |
| 1-5 | 50276930 | Washer, Trim | |
| 1-6 | 50288641 | Cover Assy, Bottom | **55003580 |

* Original and Later Rear Cover Assy are not interchangeable.
** Original and Later Bottom Cover Assy are interchangeable.

# 2. TRIM PARTS

## A-3300S




The location of the top cover mounting screws have been changed as indicated.

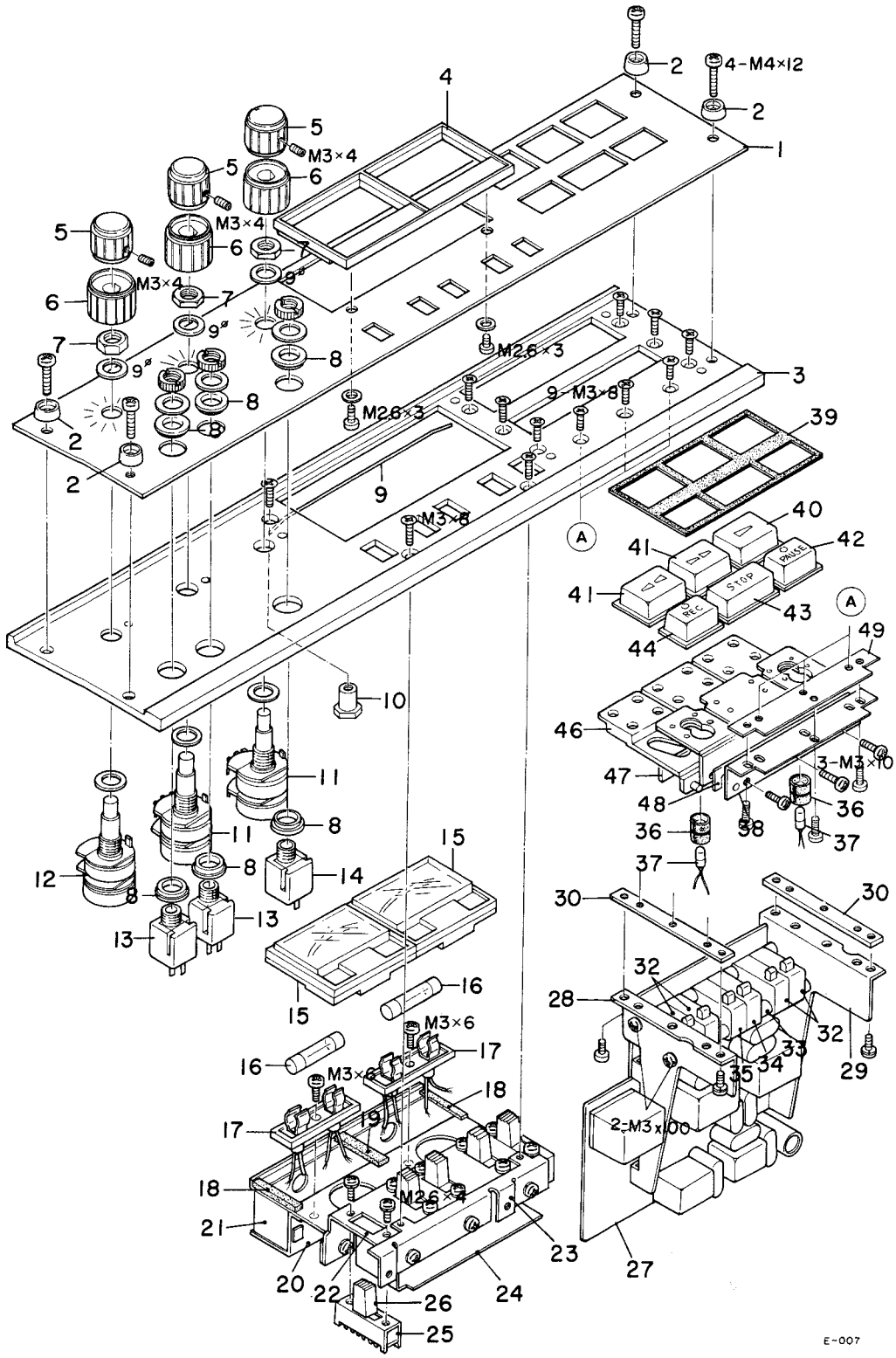
From SER. NO. to Present

## PARTS LIST-2

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 2-1 | 50288011 | Wooden Plate, A | |
| 2-2 | 50288021 | Wooden Plate, B | |
| 2-3 | 50276930 | Washer, Trim | |
| 2-4 | 50162980 | Cover, Counter | |
| 2-5 | 50277980 | Leg, Case | |
| 2-6 | 50288641 | Cover Assy, Bottom | *55003580 |
| 2-7 | 50288301 | Cover Assy, Rear | **50288302 |

* Original and Later Bottom Cover Assy are interchangeable.
** Original and Later Rear Cover Assy are not interchangeable.

# 3. CONTROL PANEL



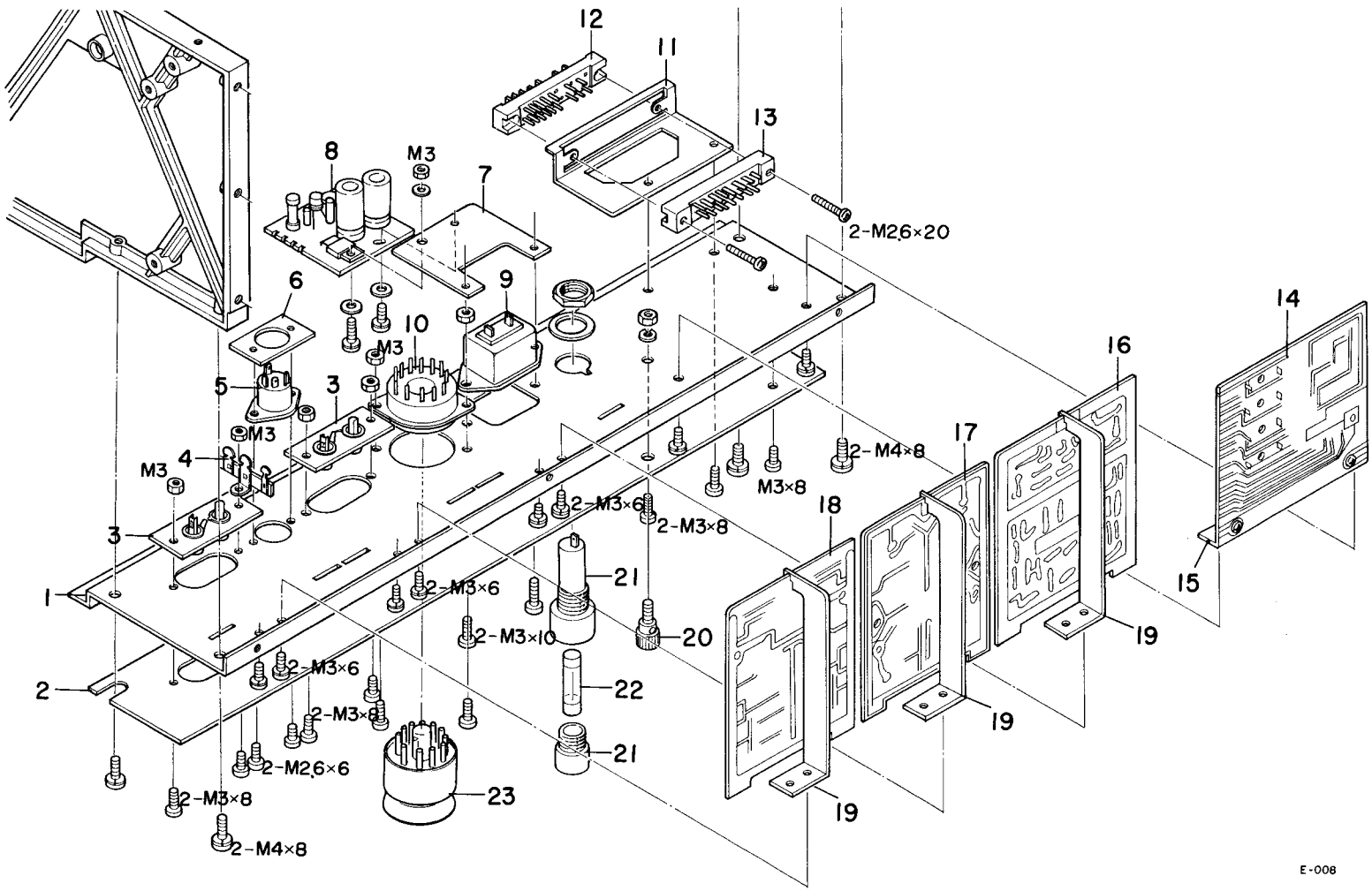
## PARTS LIST-3

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 3- 1 | 50237091 | Panel, Ampl. Trim | |
| 3- 2 | 50277111 | Washer, Trim | |
| 3- 3 | 50237112 | Panel, Ampl. | |
| 3- 4 | 50279830 | Escutcheon, VU Meter | |
| 3- 5 | 50237370 | Knob, Upper (4T) | |
| | 50253390 | " , " (2T) | |
| 3- 6 | 50237382 | Knob, Lower (4T) | |
| | 50253401 | " , " (2T) | |
| 3- 7 | 50276920 | Lock Nut | |
| 3- 8 | 50332650 | Washer, Insul. | |
| 3- 9 | 50331630 | Clamp, Meter Escutcheon | |
| 3-10 | 50331430 | Shaft, Ampl. Panel | |
| 3-11 | 50537090 | VR, 2 Gang, 100kΩA ×2 | |
| 3-12 | 50537100 | VR, 2 Gang, 10kΩA ×2 | |
| 3-13 | 50430240 | Jack, Phone; Single (MIC) | |
| 3-14 | 50432450 | Jack, Phone; 3 cond. (PHONES) | |
| 3-15 | 50581331 | VU Meter | |
| 3-16 | 50414640 | Tubular Lamp | |
| 3-17 | 50412340 | Fuse Holder | |
| 3-18 | 50236130 | Cushion Plate, Meter; B | |
| 3-19 | 50236120 | Cushion Plate, Meter; A | |
| 3-20 | 50237320 | Meter Retainer Assy; P | |
| 3-21 | 50237350 | Cover, Lamp | |
| 3-22 | 50237310 | Place, Slide SW; P | |
| 3-23 | 50236730 | Angle, Bottom Plate | |
| 3-24 | 50237361 | Shield Plate, SW | |
| 3-25 | 50440000 | SW, Slide | |
| 3-26 | 50279991 | Cap, Slide SW | |
| 3-27 | 50490890 | PC Bd. Assy, Control Relay-2 (*A-3300S*) | |
| | 50491020 | " , " (*A-2300S*) | *51680650 (From SER. No. 9681) |
| 3-28 | 50237131 | Plate, SW; Left | |
| 3-29 | 50237141 | Plate, SW; Right | |
| 3-30 | 50237121 | Plate | |
| 3-31 | | (not used) | |
| 3-32 | 50446580 | SW, Micro; VV-15-3A | |
| 3-33 | 50237160 | Spacer | |
| 3-34 | 50446570 | SW, Micro; VV-15-2A | |
| 3-35 | 50446560 | SW, Micro; VV-15-1A | |
| 3-36 | 50237490 | Cushion, Lamp | |
| 3-37 | 50414630 | Lamp | |
| 3-38 | 50332760 | Bracket, Hinge | **55505200 |
| 3-39 | 50237300 | Rubber Protector, P | |
| 3-40 | 50237201 | Pushbutton, A ( ► ) | |
| 3-41 | 50237211 | Pushbutton, B ( ► ► ) | |
| 3-42 | 50237262 | Button, Pause | |
| 3-43 | 50237221 | Pushbutton, Stop | |
| 3-44 | 50237233 | Pushbutton Assy, Record | |
| 3-45 | 50237170 | Hinge, A | |
| 3-46 | 50237182 | Hinge, B | |
| 3-47 | 50237291 | Plate Nut, PC Board | |
| 3-48 | 50332720 | Plate, Hinge Adjusting | Removed |
| 3-49 | 50332750 | Plate Nut, Hinge | **55505210 |

*Original and Later parts are not interchangeable.

**Original and Later parts are interchangeable.

# 4. REAR PANEL


12
11
13
8
M3
7
2-M2.6×20
6
9
14
10
M3
16
5
3
M3
4
M3
17
2-M4×8
M3×8
2-M3×6
2-M3×8
18
3
21
1
2-M3×6
2-M3×10
20
15
19
2-M3×6
22
2
2-M3×8
2-M2.6×6
21
19
2-M3×8
23
2-M4×8
E-008

## PARTS LIST-4

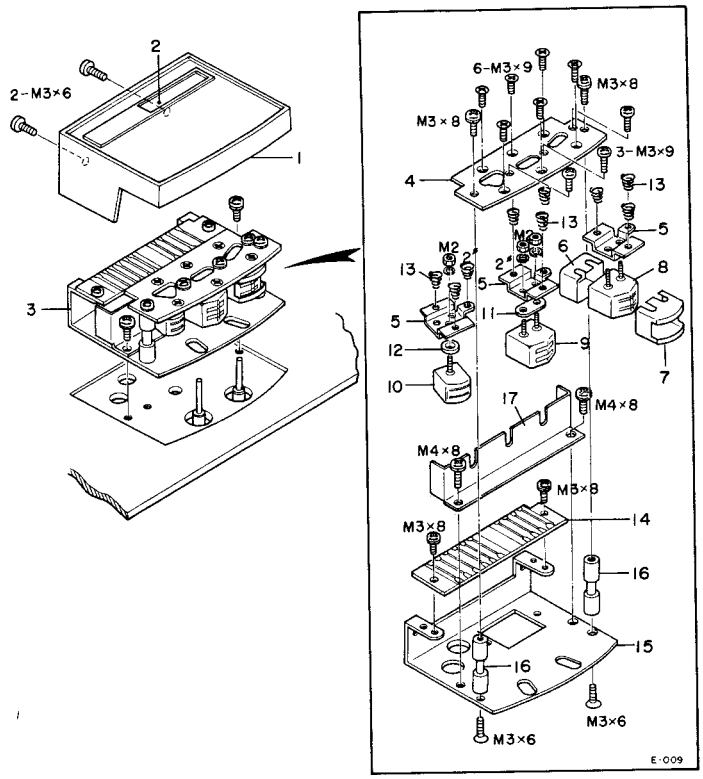
| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION 1st | REVISION 2nd | APPLICABILITY |
|---|---|---|---|---|---|
| 4- 1 | 50237400 | Chassis, Ampl. | | | |
| 4- 2 | 50237410 | Panel, Rear Trim | | | |
| 4- 3 | 50434631 | Jack, Pin; 2P | | | |
| 4- 4 | 50452060 | Terminal Strip, 1L-2P | | | |
| 4- 5 | 50430010 | Connector, DIN | | | |
| 4- 6 | 50233530 | Plate, DIN Connector | | | |
| 4- 7 | 50237020 | Plate, PC Board Holder | | | |
| 4- 8 | 50491050 | PC Bd. Assy, Voltage Regulator | | | |
| 4- 9 | 50432950 | Socket, AC | | | |
| 4-10 | 50432350 | Socket, 11P | | | |
| 4-11 | 50237450 | Bracket, Connector | | | |
| 4-12 | 50436530 | Connector, 15P (Plug)(DM) | | | |
| | 50436520 | " , " ( " )(TCA) | | | |
| 4-13 | 50438310 | Connector, 15P (Socket)(DM) | | | |
| | 50438300 | " , " ( " )(TCA) | | | |
| 4-14 | 50490870 | PC Bd. Assy, Bias Oscillator | | | |
| 4-15 | 50332550 | Angle, PC Board; Left | | | |
| 4-16 | 50491184 | PC Bd. Assy, Meter/Rec. EQ Ampl. | 50491185 | 50491186 | *A-2300S*-4T |
| | 50490864 | " , " | 50490865 | 50490866 | *A-3300S*-4T |
| | 50491275 | " , " | 50491276 | → | *A-2300S*-2T |
| | 50490964 | " , " | 50490965 | → | *A-3300S*-2T |
| 4-17 | 50491260 | PC Bd. Assy, Line Out/Phone Ampl. | | | *A-2300S*-4T |
| | 50490850 | " , " | | | *A-3300S*-4T |
| | 50491170 | " , " | | | *A-2300S*-2T |
| | 50490980 | " , " | | | *A-3300S*-2T |
| 4-18 | 50491162 | PC Bd. Assy, Mic./Playback EQ Ampl. | → | 50491163 | *A-2300S*-4T |
| | 50490841 | " , " | → | 50490842 | *A-3300S*-4T |
| | 50491250 | " , " | 50191251 | → | *A-2300S*-2T |
| | 50490970 | " , " | 50490971 | → | *A-3300S*-2T |
| 4-19 | 50233760 | Plate, PC Board | | | |
| 4-20 | 50454071 | Post, Grounding | | | |
| 4-21 | 50924500 | Fuse Holder (DM) | | | |
| | 50412280 | " (TCA) | | | |
| 4-22 | 50411140 | Fuse, 2A | | | |
| 4-23 | 50432511 | Dummy Plug | | | |

NOTE: The revised PC Board assemblies indicated above were changed concurrent with the new heads incorporated from the Serial numbers given below. For further information about these changes, see page 8, HEAD ASSEMBLY, and the orange-colored SERVICE MANUAL REVISION NOTICE at the rear of this PARTS LIST.

APPLICABLE SERIAL NUMBERS

| REVISION / MODEL | 1st | 2nd |
|---|---|---|
| *A-2300S*-4T | #9681∿ | #14881∿Present |
| *A-3300S*-4T | #8181∿ | #11881∿Present |
| *A-2300S*-2T | #15581∿Present | |
| *A-3300S*-2T | #12381∿Present | |

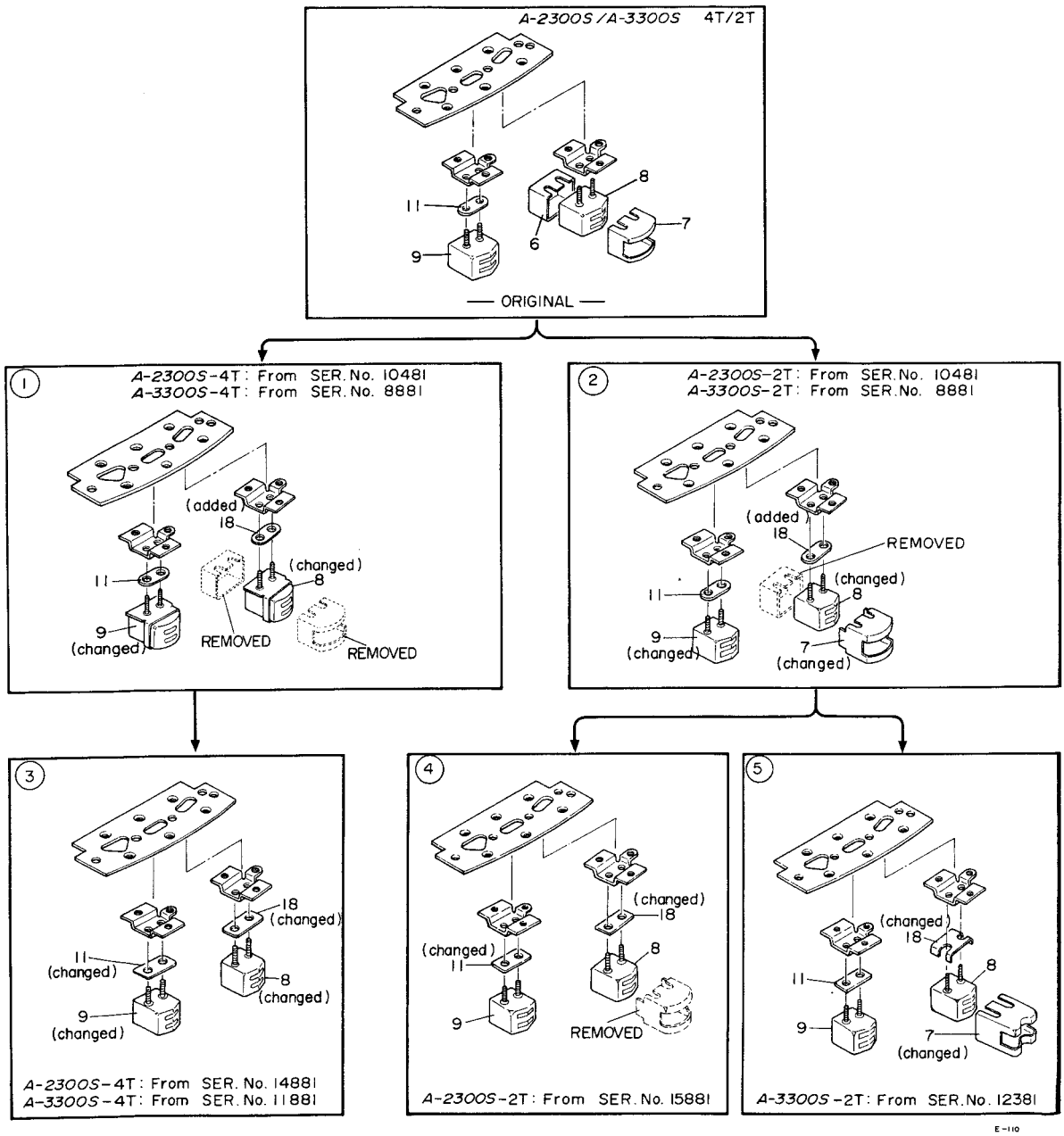
# 5. HEAD ASSEMBLY




## PARTS LIST-5

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION 1st | | REVISION 2nd | | APPLICABILITY |
|---|---|---|---|---|---|---|---|
| 5- 1 | 50136550 | Head Housing | | | | | |
| 5- 2 | 50136721 | Name Plate [A-2300S](DM) | | | | | |
| | 50136811 | " [2300S] (TCA) | | | | | |
| | 50136701 | " [A-3300S](DM) | | | | | |
| | 50136711 | " [3300S] (TCA) | | | | | |
| 5- 3 | 55900140 | Head Assy (4T) | ⇤ ① | 55900142 | | ⟶ | 4T |
| | 55900150 | " (2T) | ⇤ ② | 55900152 | | ⟶ | *A-2300S*-2T |
| | | | ⇤ ② | 55902630 | | ⟶ | *A-3300S*-2T |
| 5- 4 | 50134400 | Plate, Head Base | | | | | |
| 5- 5 | 50134371 | Plate, Head | | | | | |
| 5- 6 | 50133901 | Head Shield, B | ①② | Removed | | ⟶ | All |
| 5- 7 | 50133891 | Head Shield, A | ① | Removed | | ⟶ | 4T |
| | | | ⇤ ② | 50679870 | ④ | Removed | *A-2300S*-2T |
| | | | | | ⇤ ⑤ | 50136790 | *A-3300S*-2T |
| 5- 8 | 50669040 | Head, PB (4T) | ⇤ ① | 50664490 | ↔ ③ | 50663240 | 4T |
| | 50668050 | " , " (2T) | ⇤ ② | 50662250 | | ⟶ | *A-2300S*-2T |
| | | | ⇤ ② | 50662220 | | ⟶ | *A-3300S*-2T |
| 5- 9 | 50666041 | Head, Record (4T) | ⇤ ① | 50664480 | ↔ ③ | 50663140 | 4T |
| | 50665041 | " , " (2T) | ⇤ ② | 50662150 | | ⟶ | *A-2300S*-2T |
| | | | ⇤ ② | 50662120 | | ⟶ | *A-3300S*-2T |
| 5-10 | 50663030 | Head, Erase (4T) | | | | | |
| | 50662030 | " , " (2T) | | | | | |
| 5-11 | 50134390 | Spacer, Head | | ⟶ | ↔ ③④⑤ | 55501511 | All |
| 5-12 | 50136540 | Spacer, Erase Head | | | | | |
| 5-13 | 50220500 | Spring, Head, B | | | | | |
| 5-14 | 50484210 | PC Board, Head | | | | | |
| 5-15 | 50136560 | Plate, Housing Base; C | | | | | |
| 5-16 | 50182672 | Pin, Guide | | | | | |
| 5-17 | 50136690 | Bracket, Head Protector | | | | | |
| 5-18 | (not used) | Spacer, Head | ①② | 50134390 | ↔ ③④ | 55501511 | All exc. *A-3300S*-2T |
| | | | | (added) | ⇤ ⑤ | 50136800 | *A-3300S*-2T |

# HEAD REVISIONS-ILLUSTRATED



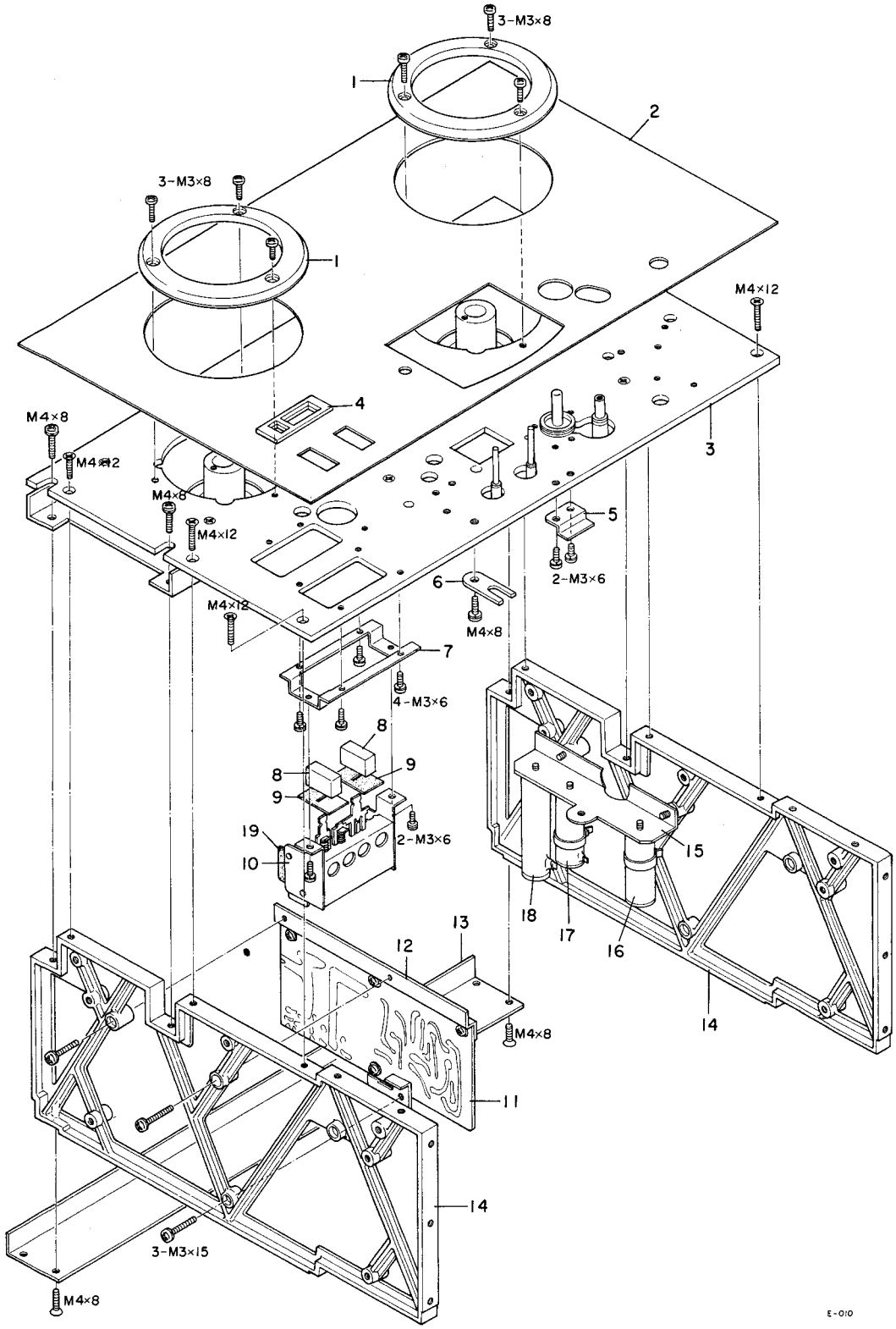

NOTE: 1. ⇥⇤ Indicates that there is no interchangeability. Use the Later number only with the applicable serial numbers. Former units require Former parts; Later units Later parts.

⟷ Indicates 100% compatibility or interchangeability between these two numbers.

2. In the parts listing, the circled numbers (⑨) correspond to the number of the Partial View above.
3. Accompanying the revision in heads, some electronic components (and alignment procedures) have been changed. For details, see the orange-colored SERVICE MANUAL REVISION NOTICE included at the back of this PARTS LIST.

# 6. TRANSPORT CHASSIS

## A-2300S




E-010

## PARTS LIST-6

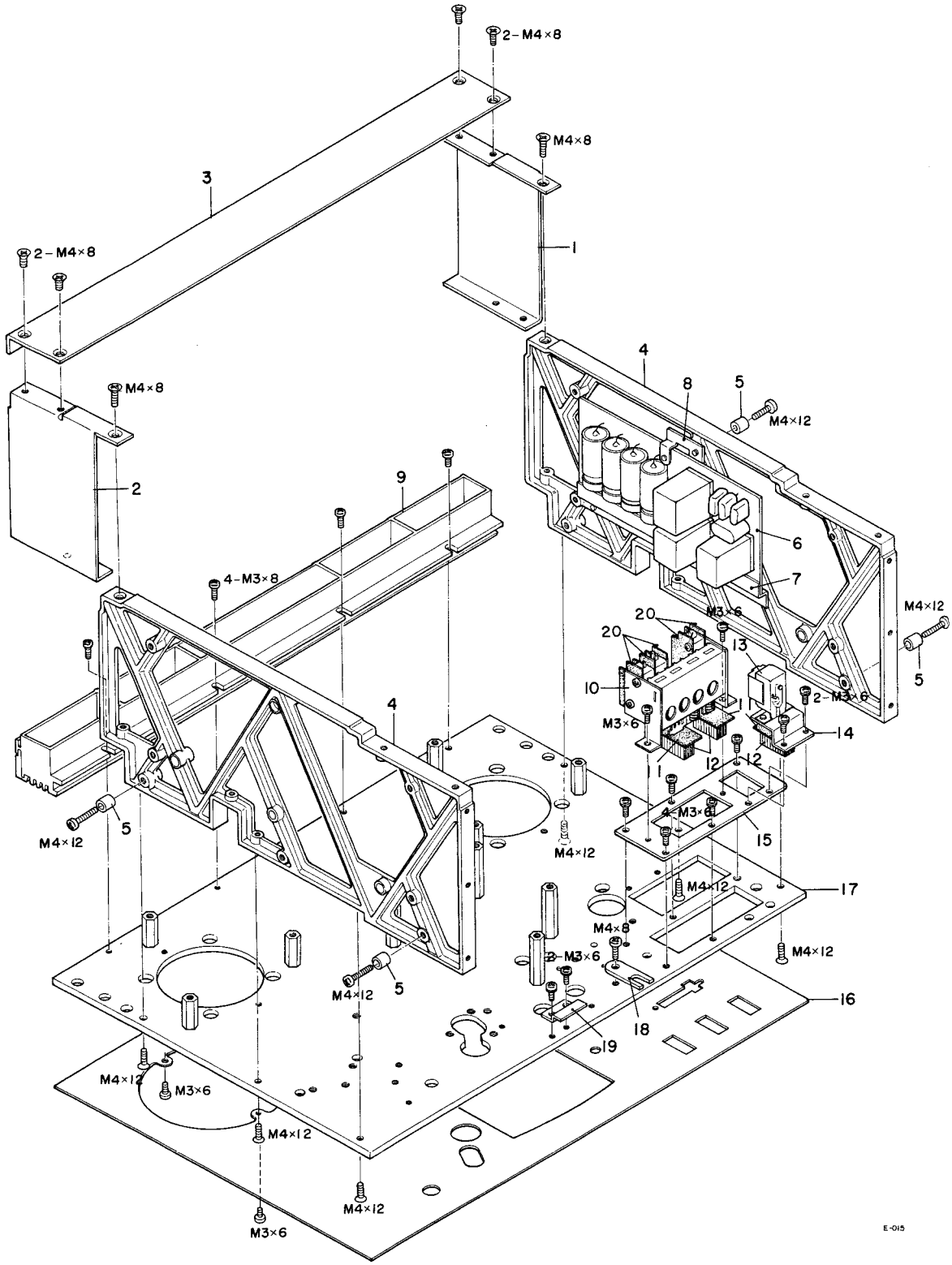
| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 6- 1 | 50161940 | Reel Protector | |
| 6- 2 | 50114250 | Panel, Trim | |
| 6- 3 | 50114272 | Panel, Chassis | 50114273 |
| 6- 4 | 50162980 | Cover, Counter | |
| 6- 5 | 50237070 | Plate, VU Meter Support | |
| 6- 6 | 50331440 | Plate, Chassis Panel | |
| 6- 7 | 50237470 | Plate, Selector SW | |
| 6- 8 | 50253890 | Knob, SW | |
| 6- 9 | 50253880 | Mask, SW | |
| 6-10 | 50443901 | Selector SW | |
| 6-11 | 50491031 | PC Bd. Assy, Power Supply | |
| 6-12 | 50332540 | Angle, PC Board | |
| 6-13 | 50235312 | Angle, Rear Cover | |
| 6-14 | 50112713 | Frame, Side | |
| 6-15 | 50330110 | Plate, Resistor | |
| 6-16 | 50522330 | R, Wire Wound; 400Ω 20HA (R2) | 700Ω *(50522370)* |
| 6-17 | 50524201 | R, Wire Wound; 100Ω 20HA (R1) | |
| 6-18 | 50522340 | R, Wire Wound 450Ω 30H (R4) | 1.2kΩ*(50522380)* |
| 6-19 | 50332670 | Plate, Insul.; Micro SW | |

NOTE: 1. Wire Wound Resistors have been changed with the change in Reel Motors from SER. No. 2891. See page 17 in this Parts List.

2. The Chassis Panel has been modified to accept the revised Pinch Roller Arm assembly. See page 23.

# 7. TRANSPORT CHASSIS

## A-3300S

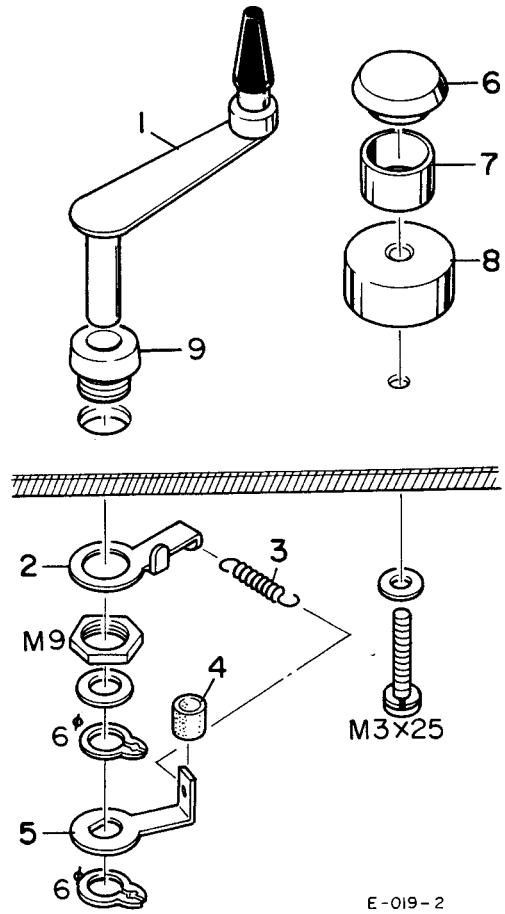


## PARTS LIST-7

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 7- 1 | 50113410 | Side-Panel, Left | |
| 7- 2 | 50113420 | Side-Panel, Right | |
| 7- 3 | 50235311 | Angle, Rear Cover | |
| 7- 4 | 50112713 | Frame, Side | |
| 7- 5 | 50241850 | Spacer, Wooden Plate | |
| 7- 6 | 50490921 | PC Bd. Assy, Power Supply | |
| 7- 7 | 50332540 | Angle, PC Board | |
| 7- 8 | 50237060 | Bracket, PC Board | |
| 7- 9 | 50112980 | Grille Assy, Top | |
| 7-10 | 50443901 | Selector SW | |
| 7-11 | 50253880 | Mask, SW, x2 (4T) | |
| | 50253900 | Mask, SW (2T) | |
| 7-12 | 50253530 | Knob, D | |
| 7-13 | 50443870 | SW, Push (POWER) (DM) | |
| | 50444560 | " , " ( " ) (TCA) | |
| 7-14 | 50237083 | Plate, Push SW | |
| 7-15 | 50237391 | Plate, Selector SW | |
| 7-16 | 50114210 | Panel, Trim, A (4T) | |
| | 50114220 | " , " , B (2T) | |
| 7-17 | 50114242 | Panel, Chassis | 50114243 |
| 7-18 | 50331440 | Plate, Chassis Panel | |
| 7-19 | 50237070 | Plate, VU Meter Support | |
| 7-20 | 50332670 | Plate, Insul.; Micro SW | |

NOTE: The Chassis Panel has been modified to accept the revised Pinch Roller Arm assembly. See page 23.

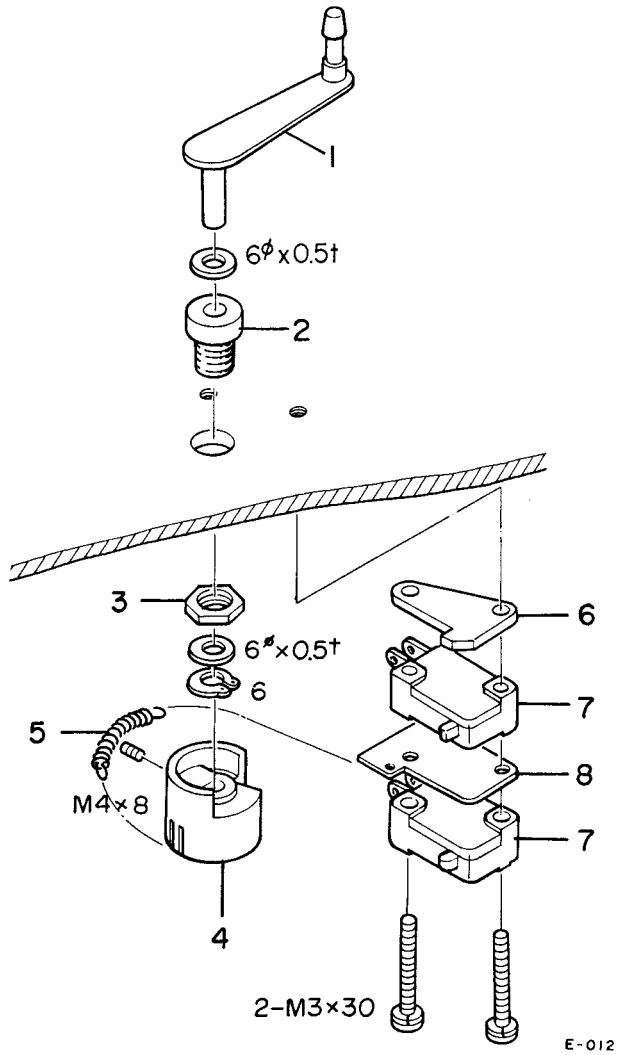
# 8. LEFT TENSION ARM




## PARTS LIST-8

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISON |
|---|---|---|---|
| 8-1 | 50180590 | Tension Arm Assy, Left | |
| 8-2 | 50276870 | Anchor, Spring; Left | |
| 8-3 | 50221110 | Spring, B | |
| 8-4 | 50276990 | Collar, Rubber | |
| 8-5 | 50182750 | Travel Limiter, Tension Arm | |
| 8-6 | 50123910 | Cap, Guide Ring | |
| 8-7 | 50123930 | Ring, Guide | |
| 8-8 | 50123921 | Guide Ring Base | |
| 8-9 | 50182701 | Bushing, Arm; A | |

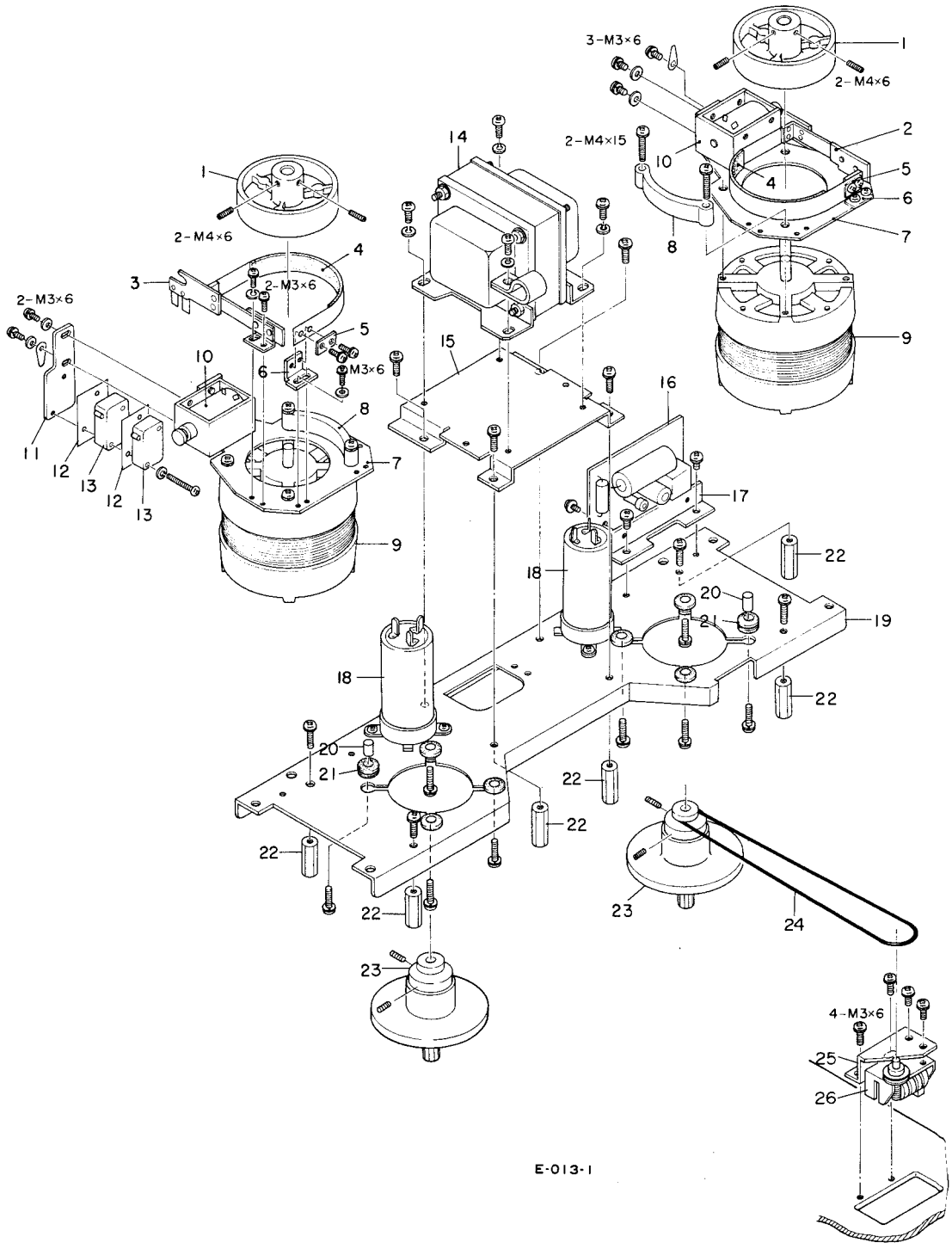
# 9. RIGHT TENSION ARM




## PARTS LIST-9

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 9-1 | 50180432 | Tension Arm Assy, Right | |
| 9-2 | 50182701 | Bushing, Arm A | |
| 9-3 | 50276920 | Lock Nut | |
| 9-4 | 50183920 | Drum, Tension Arm | |
| 9-5 | 50221122 | Spring, Tension Arm; C | |
| 9-6 | 50182730 | Limit Stop, Right | |
| 9-7 | 50446180 | SW, Micro (V-1A44) | |
| 9-8 | 50183931 | Plate, Insul. | |

# 10. REEL MOTOR ASSEMBLY
## A-2300S



## PARTS LIST-10

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 10- 1 | 50173560 | Drum, Brake | |
| 10- 2 | 50170182 | Brake Band Assy, A | |
| 10- 3 | 50173661 | Brake Band Assy, C | |
| 10- 4 | 50171382 | Felt, Brake | |
| 10- 5 | 50170150 | Plate, Band Pressure | |
| 10- 6 | 50170160 | Angle, Band | |
| 10- 7 | 50173650 | Plate, Reel Motor | |
| 10- 8 | 50172550 | Brake Retainer | |
| 10- 9 | 50702252 | Motor, Reel | * 71041041 |
| 10-10 | 50616620 | Solenoid, Brake | ** 50616770 |
| 10-11 | 50173690 | Bracket, Micro SW | |
| 10-12 | 50332680 | Insulator Plate, Micro SW | |
| 10-13 | 50446180 | SW, Micro; V-1A-44 | |
| 10-14 | 50562621 | Transformer, Power | |
| 10-15 | 50236650 | Plate, Power Transformer | |
| 10-16 | 50491190 | PC Bd. Assy, Control Relay-1 | |
| 10-17 | 50332571 | Angle, PC Board | |
| 10-18 | 50545500 | C, MP; (3+1)μF 250V | *(3.9+0.9)μF *(50545940)* |
| 10-19 | 50237460 | Chassis, Reel Motor, S | |
| 10-20 | 50162760 | Spacer, Rubber Cushion | |
| 10-21 | 50162960 | Cushion, Rubber, B | |
| 10-22 | 50161950 | Standoff, Reel Motor | |
| 10-23 | 50160332 | Reel Table Assy | |
| 10-24 | 50332560 | Belt, Counter | |
| 10-25 | 50332520 | Plate, Counter | |
| 10-26 | 50585140 | Counter | |

NOTE: 1. The Reel Table Assy (10-23) is assembled with very accurate adjustments performed during the assembly process. We no longer list the individual pieces because separate replacement of them would be meaningless. Therefore, we ask you to order the entire assembly for replacement.

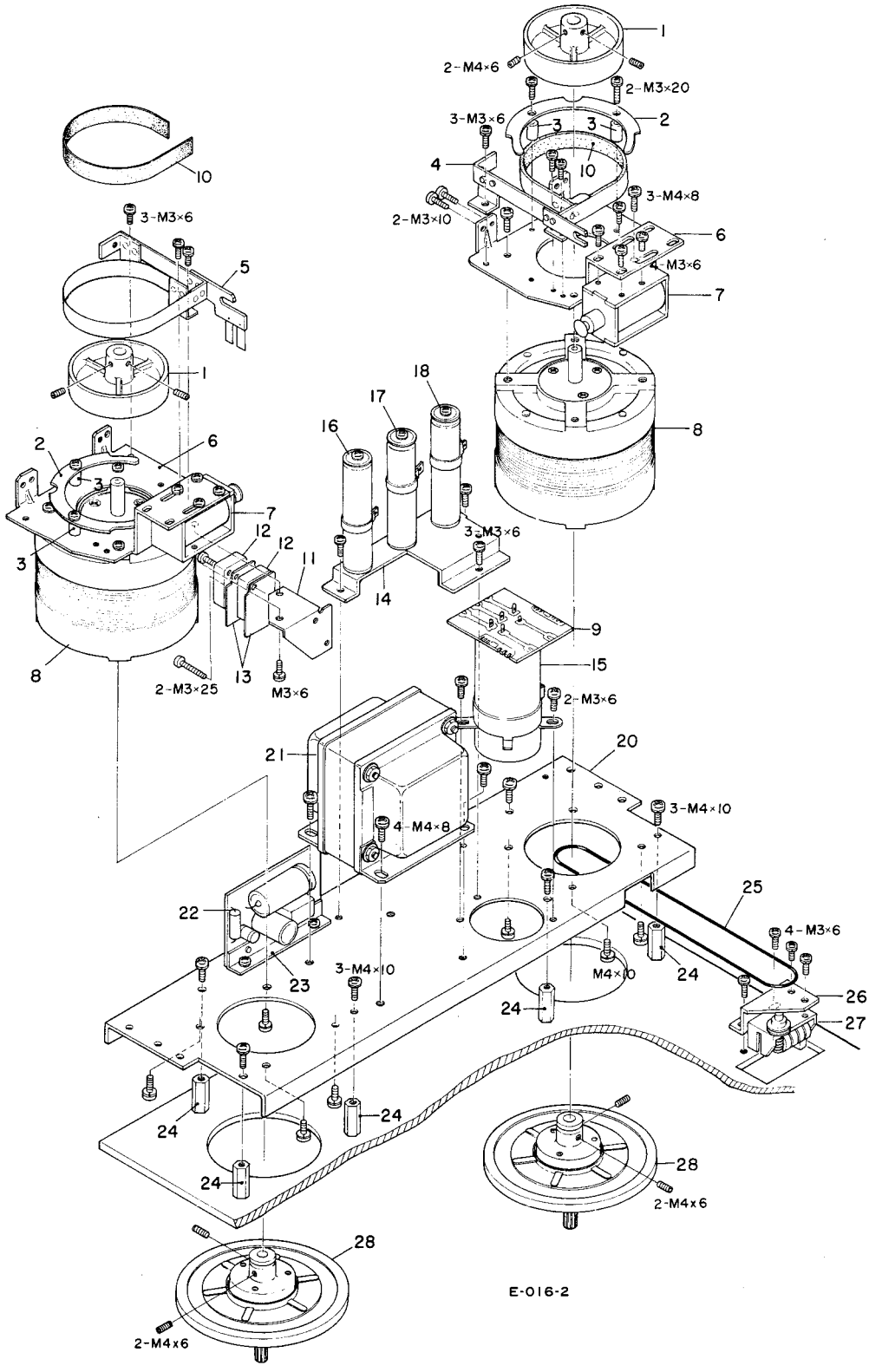
2. *From Serial #2891, the Reel Motors have been changed to the revised part, which requires a different capacitor and resistors than the original. When replacing a Reel Motor for units numbered below 2891, it is suggested that the revised part be used and the capacitor and resistors be replaced as shown below. Always use the new motor for replacement in decks from Ser. #2891.

| Description | Original | Present | Remarks |
|---|---|---|---|
| Motor, Reel (10-9) | 50702252 | 71041041 | |
| Capacitor, MP (10-18) | (3+1)μF 250V *(50545500)* | (3.9+0.9)μF 250V *(50545940)* | |
| R, Wire Wound (6-16, R2) | 400Ω 20HA *(50522330)* | 700Ω 20HA *(50522370)* | See Pg. 11 |
| R, Wire Wound (6-18, R4) | 450Ω 30H *(50522340)* | 1.2kΩ 30H *(50522380)* | See Pg. 11 |

From SER.NO. 2891 to Present

3. **Original and Later Solenoid are interchangeable.

# 11. REEL MOTOR ASSEMBLY
## A-3300S

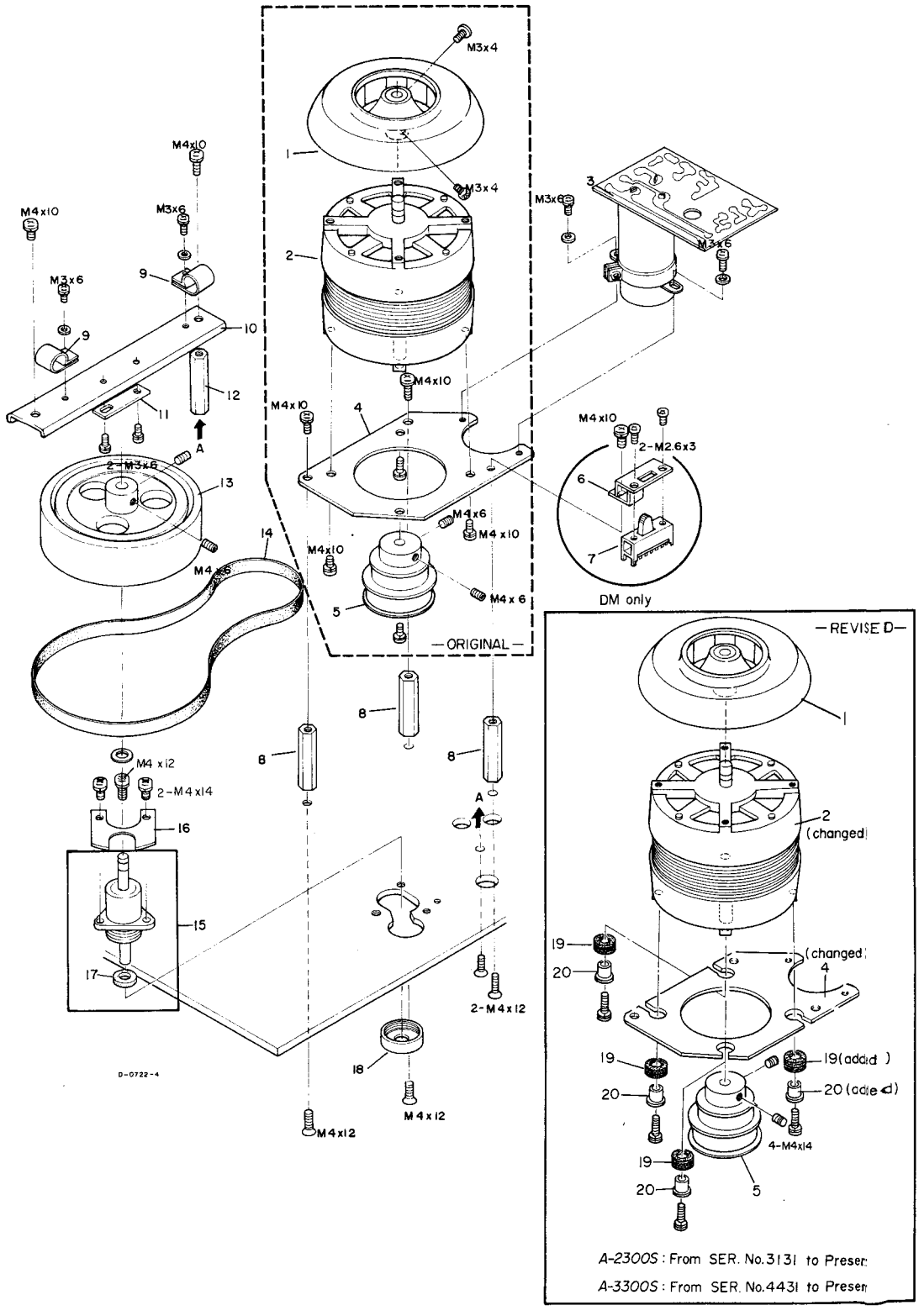


## PARTS LIST-11

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 11- 1 | 50173570 | Drum, Brake | |
| 11- 2 | 50173481 | Brake Retainer | |
| 11- 3 | 50173490 | Spacer, Brake Retainer | |
| 11- 4 | 50173331 | Brake Band Assy, L | |
| 11- 5 | 50173610 | Brake Band Assy, P | |
| 11- 6 | 50173600 | Plate, Reel Motor, P | |
| 11- 7 | 50616620 | Solenoid, Brake | |
| 11- 8 | [50702320]* | Motor, Reel | 70702322 |
| 11- 9 | 50484191 | PC Bd., MP Capacitor | |
| 11-10 | 50173410 | Felt, Brake | |
| 11-11 | 50173640 | Plate, Micro SW | |
| 11-12 | 50446180 | SW, Micro; V-1A44 | |
| 11-13 | 50332680 | Plate, Insul.; Micro SW | |
| 11-14 | 50235560 | Plate, Resistor | 55540840 |
| 11-15 | 50545820 | C, MP (5.3+0.7)μF x2 250V | |
| 11-16 | 50522230 | R, Wire Wound (100Ω 30HA)(R1) | |
| 11-17 | 50522250 | R, Wire Wound (150Ω 30HA)(R3) | 250Ω 30HA (*50522280*) |
| 11-18 | 50522280 | R, Wire Wound (250Ω 30HA)(R2) | |
| 11-19 | | (not used) | |
| 11-20 | 50236803 | Chassis, Reel Motor; B | |
| 11-21 | 50562561 | Transformer, Power | |
| 11-22 | 50490912 | PC Bd. Assy, Control Relay-1 | |
| 11-23 | 50233930 | Angle, PC Board; B | 50332571 |
| 11-24 | 50161950 | Standoff, Reel Motor | |
| 11-25 | 50332530 | Belt, Counter, P | |
| 11-26 | 50332520 | Plate, Counter | |
| 11-27 | 50585140 | Counter | |
| 11-28 | 50160314 | Reel Table Assy | |

NOTE:
1. The Reel Table Assy (11-28) is assembled with very accurate adjustments performed during the assembly process. we no longer list the individual pieces because separate replacement of them would be meaningless. Therefore, we ask you to order the entire assembly for replacement.
2. All revised parts are interchangeable between Original and Later types.
3. *Typographical error in Original Parts List. Do not order this number.

# 12. CAPSTAN DRIVE ASSEMBLY

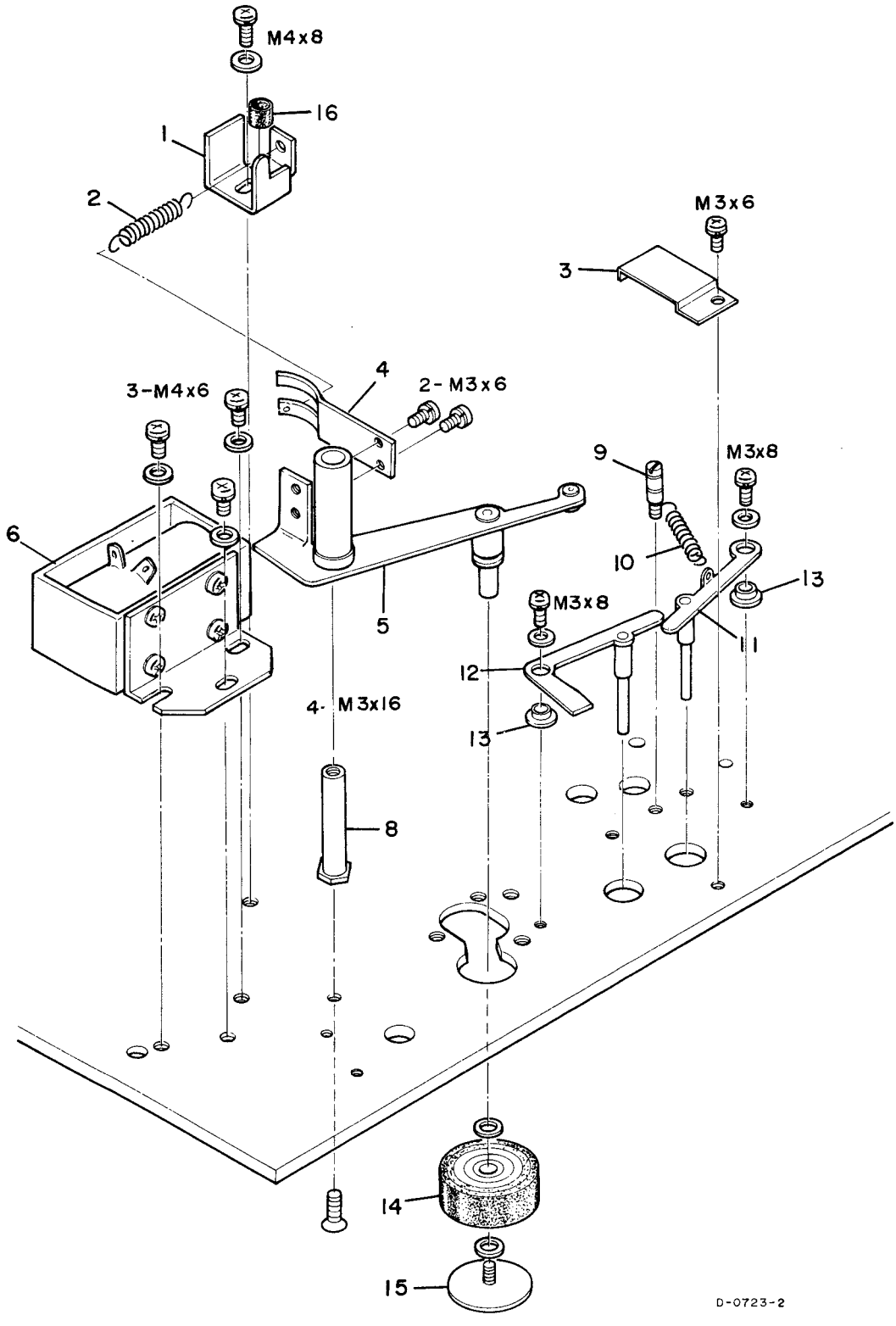


## PARTS LIST-12

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 12 -1 | 50123982 | Fan, Motor Cooling | |
| 12- 2 | 50701341 | Motor, Capstan | |
| 12- 3 | 50545650 | C, MP (2+0.8)μF/250V | |
| | 50491401 | PC Bd, MP Capacitor | |
| 12- 4 | 50123870 | Plate, Capstan Motor | * 50237520 |
| 12- 5 | 50124003 | Pulley, Motor (50Hz/60Hz)(DM) | |
| | 50125121 | Pulley, Motor (60Hz)(TCA) | |
| 12- 6 | 50332380 | Bracket, Slide SW (DM) | |
| 12- 7 | 50444610 | SW, Slide (DM) | |
| 12- 8 | 50123850 | Standoff, Capstan | |
| 12- 9 | 50276280 | Clamp, Wire | |
| 12-10 | 50277151 | Angle, Thrust | |
| 12-11 | 50277231 | Plate, Thrust | |
| 12-12 | 50123860 | Standoff, Flywheel | |
| 12-13 | 50123802 | Flywheel, Capstan | |
| 12-14 | 50123830 | Belt, Capstan (All exc. *A-3300S*-2T) | |
| | 50125340 | " , " (*A-3300S*-2T only) | |
| 12-15 | 50120440 | Capstan Assy (19cm/s)(All exc. *A-3300S*-2T) | |
| | 50120450 | " (38cm/s)(*A-3300S*-2T only) | |
| 12-16 | 50142190 | Plate, Arm Support | |
| 12-17 | 50123900 | Sponge, Oiler | |
| 12-18 | 50123971 | Cap, Dust, 6φ (4T) | |
| | 50125351 | " , " , 12φ (2T) | |
| 12-19 | (not used) | Cushion, Rubber | 50706211 (added) |
| 12-20 | (not used) | Spacer, Rubber Cushion | 50332790 (added) |

NOTE: *The Capstan Motor Plate (12-4, revised P/N 50237520) requires the use of ref. numbers 12-19 and 12-20.

# 13. LIFTER AND PINCH ROLLER

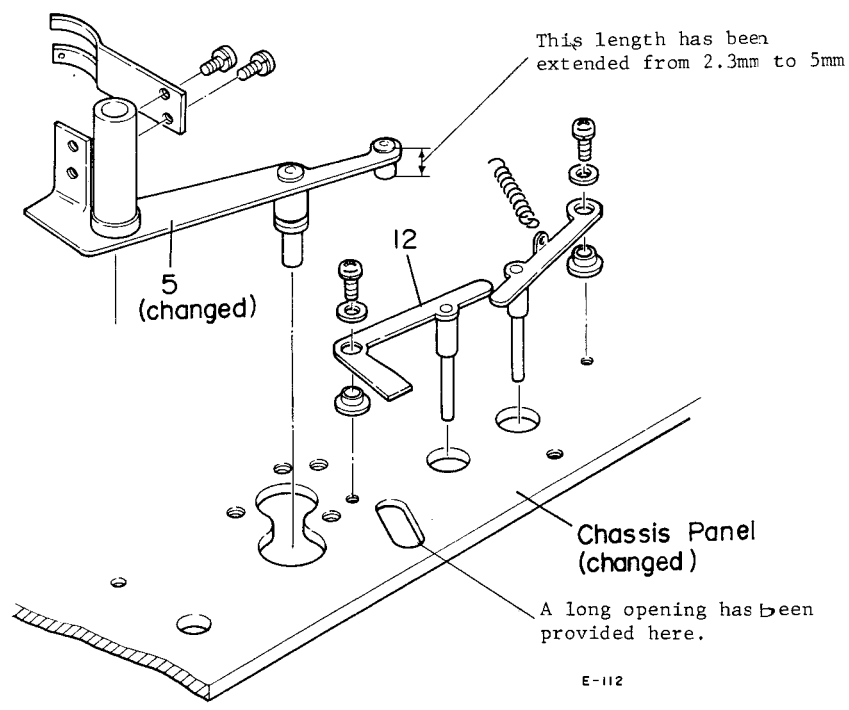


## PARTS LIST-13

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 13- 1 | 50141842 | Limit Stop, Pinch Roller | |
| 13- 2 | 50220441 | Spring | |
| 13- 3 | 50152453 | Plate, Lifter | |
| 13- 4 | 50221152 | Spring, Pressure | |
| 13- 5 | 50140235 | Arm Assy, Pinch Roller | * 50140236 |
| 13- 6 | 50616641 | Solenoid Assy, Pinch Roller | ** 50616760 |
| 13- 7 | | (not used) | |
| 13- 8 | 50141821 | Shaft, Roller Arm | |
| 13- 9 | 50123140 | Pin, Lifter Spring | |
| 13-10 | 50221100 | Spring, Lifter, A | |
| 13-11 | 50150252 | Arm, Lifter; B | |
| 13-12 | 50150242 | Arm, Lifter; A | |
| 13-13 | 50152501 | Shaft, Lifter Arm | |
| 13-14 | 50141751 | Pinch Roller | |
| 13-15 | 50142180 | Cap, Pinch Roller | |
| 13-16 | 50275690 | Cushion, Rubber | |

*Not interchangeable. See explanation in the following figure.
**Original and Later Solenoid Assy are interchangeable.

**REVISED**

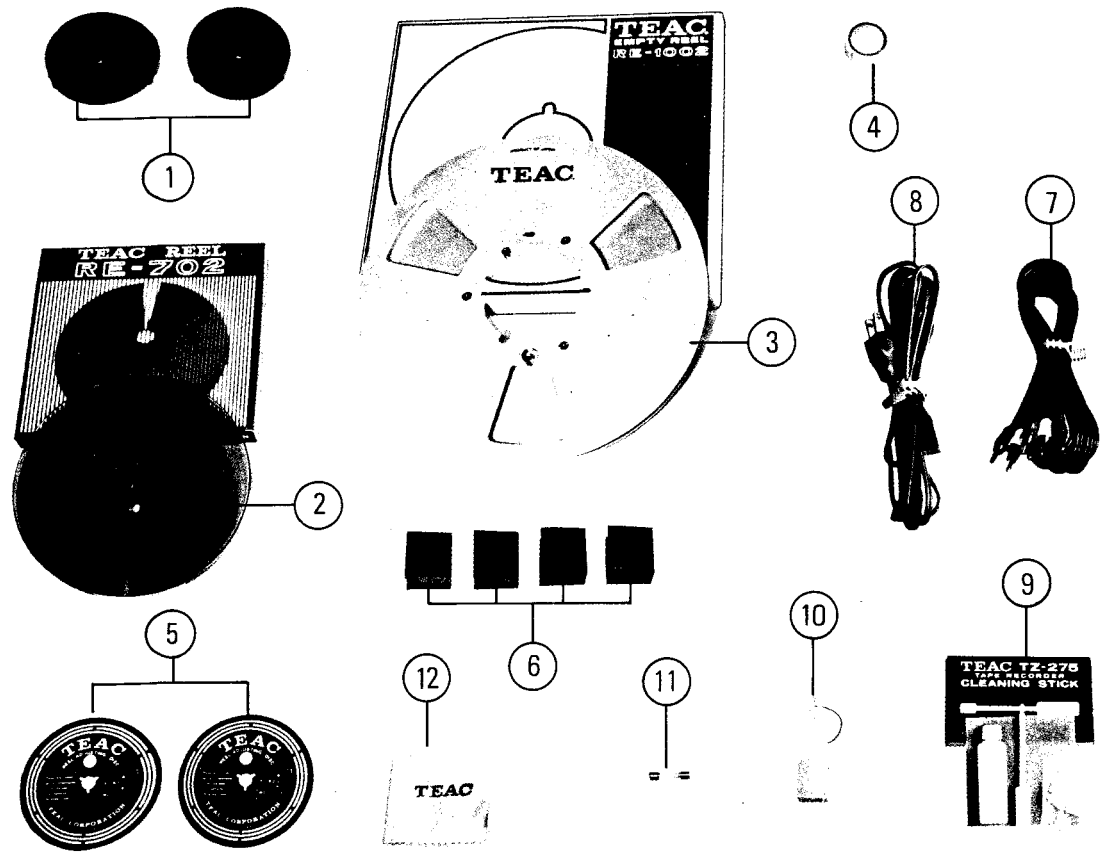



The Pinch Roller Arm Assy (13-5) has been changed as illustrated, with the Chassis Panel (6-3, 7-17) also modified to accept the new assembly. The new Arm Assy (P/N 50140236) can not be used with the earlier chassis.

Revision of the Chassis Panel

*A-2300S*: From SER. NO. 18581 to Present; from P/N 50114272 to P/N 50114273
*A-3300S*: From SER. NO. 16681 to Present; from P/N 50114242 to P/N 50114243

# 14. SUPPLIED ACCESSORIES




## PARTS LIST-14

| REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| 14- 1 | 50160270 | Reel Adaptors, x2 *(A-3300S)* | |
| 14- 2 | *RE-702 | Empty Reel, 7 inch, Small Hub *(A-2300S)* | |
| 14- 3 | *RE-1002 | " , 10 inch *(A-3300S)* | |
| 14- 4 | 50629620 | Splicing Tape | |
| 14- 5 | 50852120 | Reel Adjusting Disc, x2 | |
| 14- 6 | 50276971 | Rubber Feet (for Horizontal Use), x4 | |
| 14- 7 | 50471250 | Input-Output Connection Cords, x2 | |
| 14- 8 | 50470772 | AC Power Cord (DM) | |
| | 50470501 | " (TCA) | 50478250 |
| 14- 9 | 57100300 | Cleaning Stick (TZ-275) | |
| 14-10 | 50291860 | Oil and Applicator | |
| 14-11 | 50411340 | Fuse, 2A-250V (TCA·UL only) | |
| 14-12 | 50291350 | Silicone Cloth | |
| ----- | 51011651 | A-2300S Instruction Manual (DM) | |
| ----- | 51012261 | 2300S " (TCA) | |
| ----- | 51011410 | A-3300S " (DM) | |
| ----- | 51011421 | 3300S " (TCA) | |

NOTE: The Empty Rells are available as Optional Accessories and thus are not assigned a special TEAC Parts number. Please order them by the MODEL CODE NUMBER (RE-702, RE-1002). These numbers are indicated on the packages.

# PRINTED CIRCUIT BOARD PARTS LIST

## A-2300S/A-3300S

NOTE

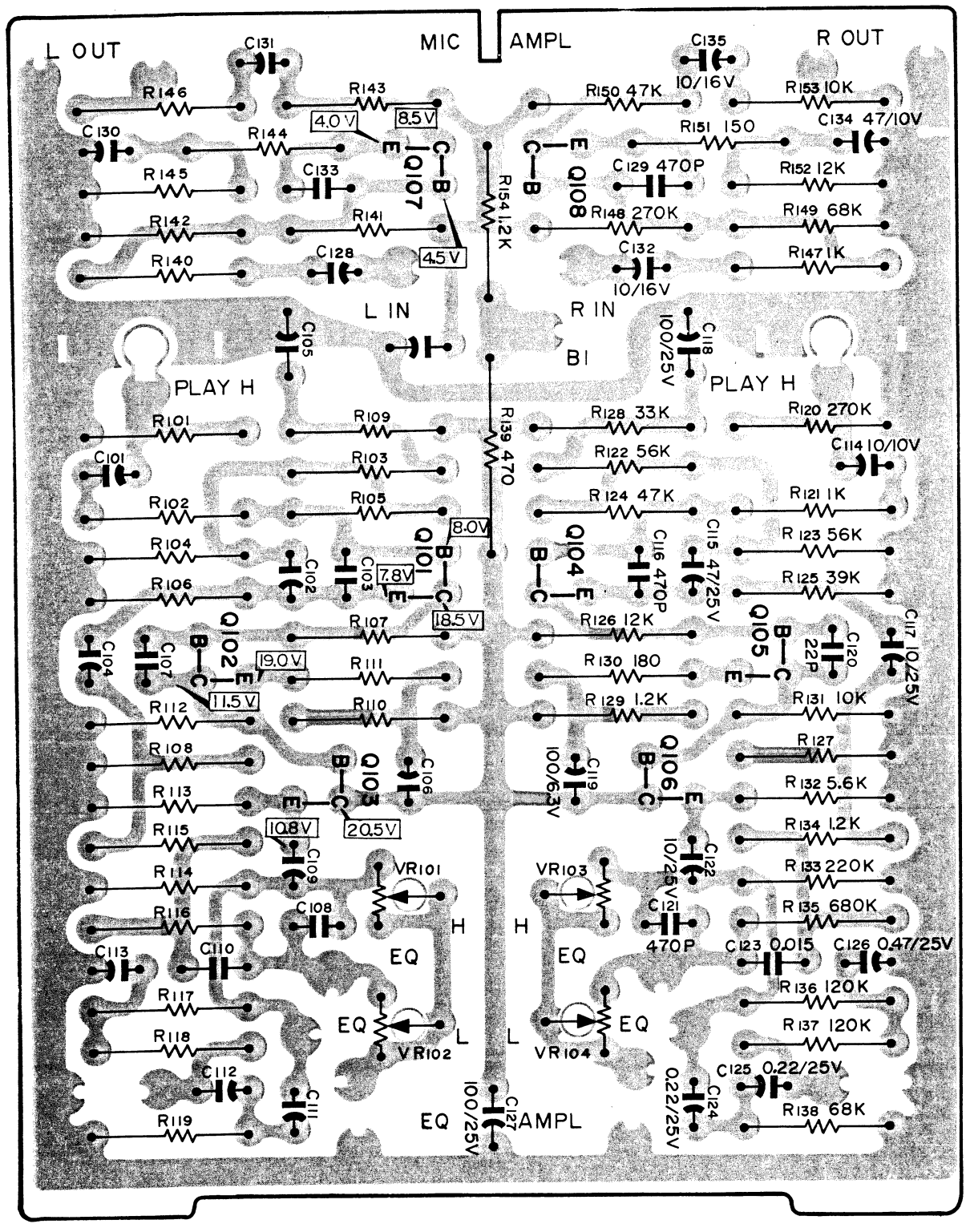
1. Several parts values have been changed by modifications. To obtain the correct part, always cross-reference with a Schematic Diagram and check the Circuit Reference number for possible revisions. The tape deck's Serial Number will be needed to confirm applicability as explained on the effected pages.

2. Do not include the Circuit Reference number with your order- it is included here for your reference use only.

3. Double designated circuit reference numbers indicate left channel/right channel (example: R101/201).

TEAC CORPORATION

# 1. MIC/PLAYBACK EQ. AMPLIFIER




ORIGINAL

| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION | APPLICABILITY |
|---|---|---|---|---|
| | 50491162 | PC Bd. Assy, MIC/PB EQ Ampl. | ⑤ 50491163 | *A-2300S*-4T |
| | 50490841 | " , " | ⑤ 50490842 | *A-3300S*-4T |
| | 50491250 | " , " | ④ 50491251 | *A-2300S*-2T |
| | 50490970 | " , " | ⑥ 50490971 | *A-3300S*-2T |
| | 50484080 | PC Board | | |
| | | SILICON TRANSISTORS | | |
| Q101/104 | 50424340 | 2SC1000-BL | | |
| Q102/105 | 50423650 | 2SA494-Y | | |
| Q103/106 | 50424600 | 2SC828-S | | |
| Q107/108 | 50424340 | 2SC1000-BL | | |
| | | CARBON RESISTORS | | |
| R101/120 | 50518890 | 270kΩ 1/4W 10% | | |
| R102/121 | 50513430 | 1kΩ " " | | |
| R103/122 | 50513990 | 56kΩ " " | | |
| R104/123 | 50513990 | 56kΩ " " | | |
| R105/124 | 50513870 | 47kΩ " " | | |
| R106/125 | 50518850 | 39kΩ " " | | |
| R107/126 | 50513580 | 12kΩ " " | | |
| R108/127 | 50518780 | 220Ω " " | ② 330Ω (*50513360*) | *A-2300S*-4T |
| | 50513360 | 330Ω " " | ⟶ | *A-3300S*-4T |
| | 50572760 | 560Ω " " | ⟶ | 2T |
| R109/128 | 50518840 | 33kΩ " " | | |
| R110/129 | 50513440 | 1.2kΩ " " | | |
| R111/130 | 50518770 | 180Ω " " | | |
| R112/131 | 50513570 | 10kΩ " " | | |
| R113/132 | 50513880 | 5.6kΩ " " | | |
| R114/133 | 50518880 | 220kΩ " " | | |
| R115/134 | 50513440 | 1.2kΩ " " | | |
| R116/135 | 50518930 | 680kΩ " " | ① 270kΩ (*50518890*) ⑤ 180kΩ (*50518380*) | 4T |
| | " | " " " | ④ 270kΩ (*50518890*) | *A-2300S*-2T |
| | " | " " " | ⑥ 470kΩ (*50573460*) | *A-3300S*-2T |
| R117/136 | 50573200 | 120kΩ 1/4W 10% | ⑤ 33kΩ (*50518840*) | 4T |
| | " | " " " | ⟶ | 2T |
| R118/137 | " | " " " | ⑤ 33kΩ (*50518840*) | 4T |
| | " | " " " | ⟶ | 2T |
| R119/138 | 50518860 | 68kΩ " " | | |
| R139 | 50518790 | 470Ω " " | | |
| R140/147 | 50513430 | 1kΩ " " | | |
| R141/148 | 50518890 | 270kΩ " " | | |
| R142/149 | 50518860 | 68kΩ " " | | |
| R143/150 | 50513870 | 47kΩ " " | | |
| R144/151 | 50513320 | 150Ω " " | | |
| R145/152 | 50513580 | 12kΩ " " | | |
| R146/153 | 50513570 | 10kΩ " " | | |
| | | TRIMMER RESISTORS | | |
| VR101/103 | 50534130 | 6.8kΩ(B) | ④ 10kΩ(B) (*50533480*) | *A-2300S*-2T only |
| | " | " | ⟶ | All exc. *A-2300S*-2T |
| VR102/104 | 50534140 | 15Ω(B) | | All exc. *A-3300S*-2T |
| | 50534130 | 6.8kΩ(B) | | *A-2300S*-2T only |
| | | CAPACITORS | | |
| C101/114 | 50546193 | Tant. 10μF 10V | | |
| C102/115 | 50554030 | Elec. 47μF 6.3V | | |
| C103/116 | 50547560 | Polyst. 470pF 50V | | |
| C104/117 | 50549700 | Elec. 10μF 25V | | |
| C105/118 | 50549740 | Elec. 100μF 25V | | |

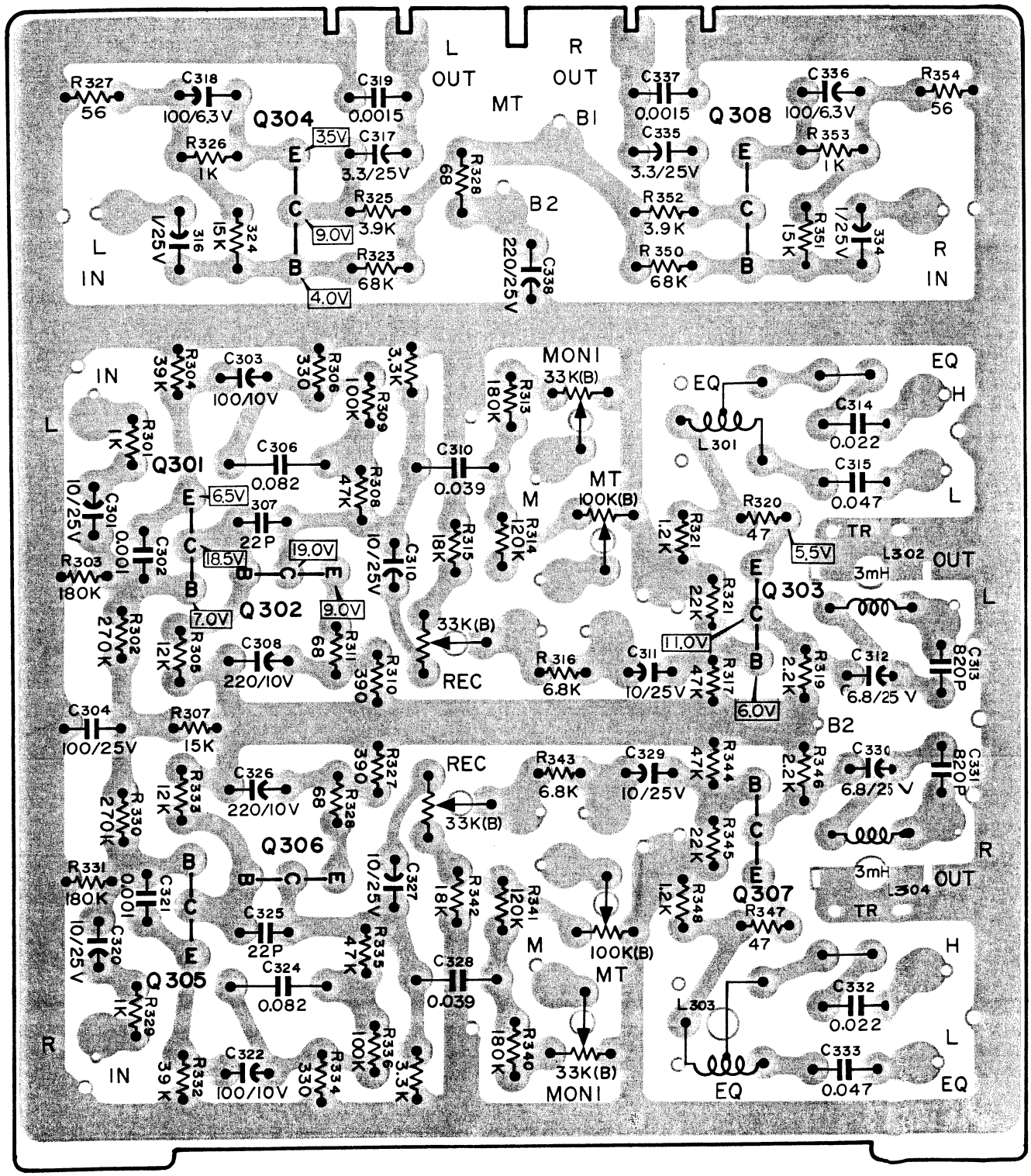
| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | | REVISION | APPLICABILITY |
|---|---|---|---|---|---|
| C106/119 | 50554230 | Elec. | 100μF 6.3V | | |
| C107/120 | 50543820 | Polyst. | 22pF 50V | | |
| C108/121 | 50547560 | Polyst. | 470pF 50V | | |
| C109/122 | 50549700 | Elec. | 10μF 25V | | |
| C110/123 | 50548420 | Mylar | 0.015pF 50V | | |
| C111/124 | 50546662 | Dip. Tant. | 0.22μF 25V | ⑤ 1μF 35V (*50546701*) | 4T |
| | " | " | " | ⟶ | 2T |
| C112/125 | 50546662 | Dip. Tant. | 0.22μF 25V | ⑤ 1μF 35V (*50546701*) | 4T |
| | " | " | " | ⟶ | 2T |
| C113/126 | 50546689 | Tant. | 0.47μF 16V | | |
| C127/136 | 50554170 | Elec. | 100μF 25V | | |
| C128/132 | 50554050 | Elec. | 10μF 6V | | |
| C129/133 | 50547560 | Polyst. | 470pF 50V | | |
| C130/134 | 50554030 | Elec. | 47μF 6.3V | | |
| C131/135 | 50554050 | Elec. | 10μF 6V | | |

NOTE: 1. The circled numbers above (in the REVISION column) correspond to those in the following table.

| | | | |
|---|---|---|---|
| *A-2300S*-4T | ① From SER. NO. 10481 | *A-2300S*-2T | ④ From SER. NO. 15581 to Present |
| | ② From SER. NO. 11081 | | |
| | ⑤ From SER. NO. 14881 to Present | | |
| *A-3300S*-4T | ① From SER. NO. 8881 | *A-3300S*-2T | ⑥ From SER. NO. 12381 to Present |
| | ⑤ From SER. NO. 11881 to Present | | |

2. All revised electrical components resulted from the head parts change (including Heads). For details, see HEAD ASSEMBLY (page 8 in PARTS LIST) and the SERVICE MANUAL REVISION NOTICE - orange colored sheet - at the rear of this PARTS LIST.

# 2. METER/REC.EQ.AMPLIFIER




ORIGINAL

| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION | APPLICABILITY |
|---|---|---|---|---|
| | 50491184 | PC Bd. Assy | ③ 50491185 ⑤ 50491186 | *A-2300S*-4T |
| | 50490864 | " | ③ 50490865 ⑤ 50490866 | *A-3300S*-4T |
| | 50491275 | " | ④ 50491276 | *A-2300S*-2T |
| | 50490964 | " | ⑥ 50490965 | *A-3300S*-2T |
| | 50484102 | PC Board | | |
| | | SILICON TRANSISTORS | | |
| Q301/305 | 50423870 | 2SC639-G | | |
| Q302/306 | 50423650 | 2SA494-Y | | |
| Q303/304 | 50424600 | 2SC828-S | | |
| Q307/308 | 50424600 | 2SC828-S | | |
| | | CARBON RESISTORS | | |
| R301/329 | 50570820 | 1kΩ 1/4W 10% | | |
| R302/330 | 50571400 | 270kΩ " " | | |
| R303/331 | 50571360 | 180kΩ " " | | |
| R304/332 | 50571200 | 39kΩ " " | | |
| R305/333 | 50571080 | 12kΩ " " | | |
| R306/334 | 50570700 | 330Ω " " | | |
| R307/324 | 50571100 | 15kΩ " " | | |
| R308/335 | 50571220 | 47kΩ " " | | |
| R309/336 | 50571300 | 100kΩ " " | | |
| R310/337 | 50570720 | 390Ω " " | | |
| R311/338 | 50570540 | 68Ω " " | | |
| R312/339 | 50570940 | 3.3kΩ " " | | |
| R313/340 | 50571360 | 180kΩ " " | | |
| R314/341 | 50571320 | 120kΩ " " | | |
| R315/342 | 50571120 | 18kΩ " " | ② 6.8kΩ (*50571020*) | All |
| R316/343 | 50571020 | 6.8kΩ " " | | |
| R317/344 | 50571220 | 47kΩ " " | | |
| R318/345 | 50571120 | 18kΩ " " | | |
| R319/346 | 50570900 | 2.2kΩ " " | | |
| R320/347 | 50570500 | 47Ω " " | | |
| R321/348 | 50570840 | 1.2kΩ " " | | |
| R322/349 | | Jumper | ③ 150Ω (*50515240*) | 4T |
| | | Jumper | ④ 100Ω (*50515220*) | *A-2300S*-2T |
| | 50570220 | 33Ω 1/4W 10% | ⑥ 180Ω (*50570640*) | *A-3300S*-2T |
| R323/350 | 50571260 | 68kΩ " " | | |
| R325/352 | 50570960 | 3.9kΩ " " | | |
| R326/353 | 50570820 | 1kΩ " " | | |
| R327/354 | 50570520 | 56Ω " " | | |
| R328 | 50570540 | 68Ω " " | | |
| R351 | 50571100 | 15kΩ " " | | |
| | | TRIMMER RESISTORS | | |
| VR301/304 | 50534120 | 33kΩ(B) | | |
| VR302/305 | 50533490 | 100kΩ(B) | | |
| VR303/306 | 50533520 | 47kΩ(B) | | *A-2300S* |
| | 50534120 | 33kΩ(B) | | *A-3300S* |
| | | CAPACITORS | | |
| C301/320 | 50554040 | Elec. 10μF 25V | | |
| C302/321 | 50548320 | Mylar 0.001μF 50V | | |
| C303/322 | 50554570 | Elec. 100μF 10V | | |
| C304 | 50554170 | Elec. 100μF 25V | | |
| C305/323 | 50543510 | Polyst. 33pF 50V | | |
| C306/324 | 50548370 | Mylar 0.082μF 50V | ② 0.056μF 50V (*50548460*) ⑤ 0.047μF 50V (*50548270*) | 4T |
| | " | " " " | ② 0.056μF 50V (*50548460*) | *A-2300S*-2T |
| | " | " " " | ② 0.056μF 50V (*50548460*) ⑥ 0.082μF 50V (*50548370*) | *A-3300S*-2T |
| C307/325 | 50543330 | Polyst. 22pF 50V | | |
| C308/326 | 50554910 | Elec. 220μF 10V | | |
| C309/327 | 50549700 | Elec. 10μF 25V | | |
| C310/328 | 50548630 | Mylar 0.039μF 50V | ② 0.027μF 50V (*50548330*) | All exc. *A-3300S*-2T |
| | " | " " " | ② 0.027μF 50V (*50548330*) ⑥ 0.033μF (*50548240*) | *A-3300S*-2T only |
| C311/329 | 50554040 | Elec. 10μF 25V | | |
| C312/330 | 50546621 | Tant. 6.8μF 25V | | |
| C313/331 | 50543440 | Polyst. 820pF 50V | | |
| C314/332 | 50548240 | Mylar 0.033μF 50V | → | 4T |
| | 50548290 | Mylar 0.022μF 50V | ④ 0.015μF 50V (*50548420*) | *A-2300S*-2T |
| | 50548620 | Mylar 0.012μF 50V | ① 0.0068μF 50V (*50548570*) | *A-3300S*-2T |

| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | | REVISION | APPLICABILITY |
|---|---|---|---|---|---|
| C315/333 | 50548270 | Mylar | 0.047μF 50V | ① 0.033μF 50V (*50548240*) | 4T |
| | 50548460 | Mylar | 0.056μF 50V | ④ 0.022μF 50V (*50548290*) | *A-2300S*-2T |
| | 50548330 | Mylar | 0.027μF 50V | ① 0.022μF 50V (*50548290*) | *A-3300S*-2T |
| C316/334 | 50555470 | Elec. | 1μF 25V | | |
| C317/335 | 50554140 | Elec. | 3.3μF 25V | | |
| C318/336 | 50554230 | Elec. | 100μF 6.3V | | |
| C319/337 | 50548120 | Mylar | 0.0015μF 50V | | |
| C338 | 50555520 | Elec. | 220μF 25V | | |
| | COILS | | | | |
| L301/303 | 50566370 | Rec. EQ | 2.4/4.2mH | | All exc. *A-3300S*-2T |
| | 50566670 | Rec. EQ | 1.5/2.4mH | | *A-3300S*-2T only |
| L302/304 | 50566300 | Trap | 3mH | | |

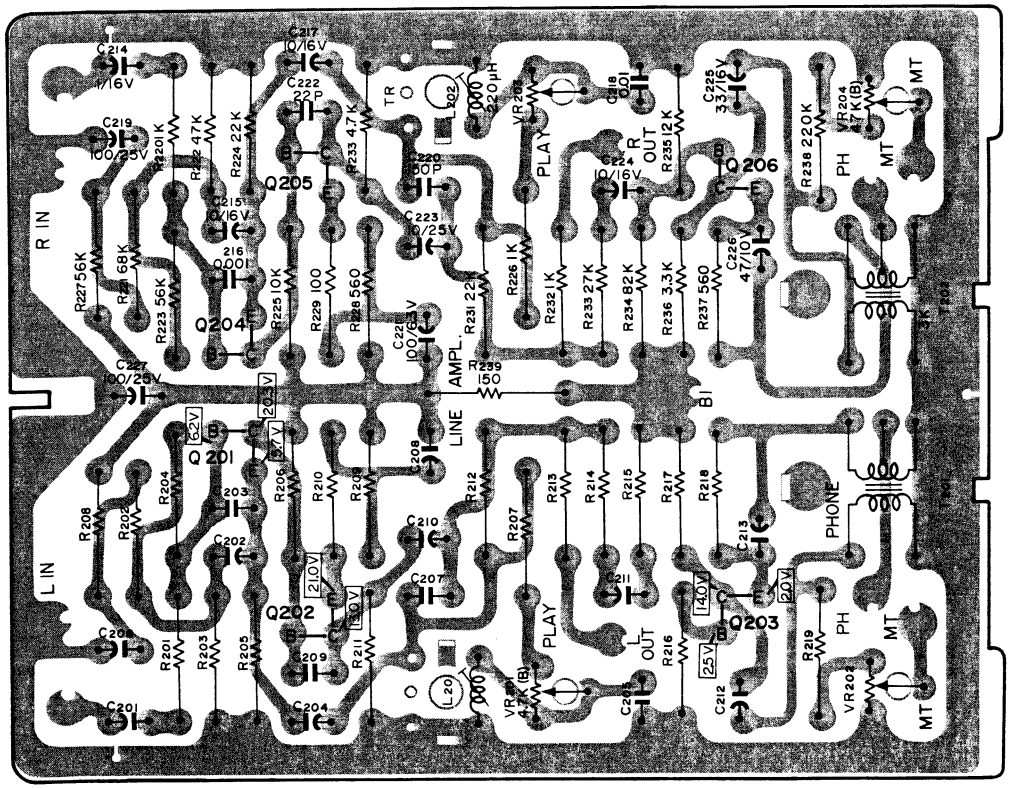
NOTE: 1. The circled numbers above (in the REVISION column) correspond to those in the following table.

| | |
|---|---|
| *A-2300S*-4T | ① From SER. NO. 10481 |
| | ② From SER. NO. 11081 |
| | ③ From SER. NO. 9681 |
| | ⑤ From SER. NO. 14881 to Present |
| *A-3300S*-4T | ① From SER. NO. 8881 |
| | ② From SER. NO. 10281 |
| | ③ From SER. NO. 8181 |
| | ⑤ From SER. NO. 11881 to Present |

| | |
|---|---|
| *A-2300S*-2T | ② From SER. NO. 11081 |
| | ④ From SER. NO. 15581 to Present |
| *A-3300S*-2T | ① From SER. NO. 8881 |
| | ② From SER. NO. 10281 |
| | ⑥ From SER. NO. 12381 to Present |

2. All revised electrical components resulted from the head parts change (including Heads). For details, see HEAD ASSEMBLY (page 8 in PARTS LIST) and the SERVICE MANUAL REVISION NOTICE - orange colored sheet - at the rear of this PARTS LIST.

# 3. LINE OUT/PHONE AMPLIFIER

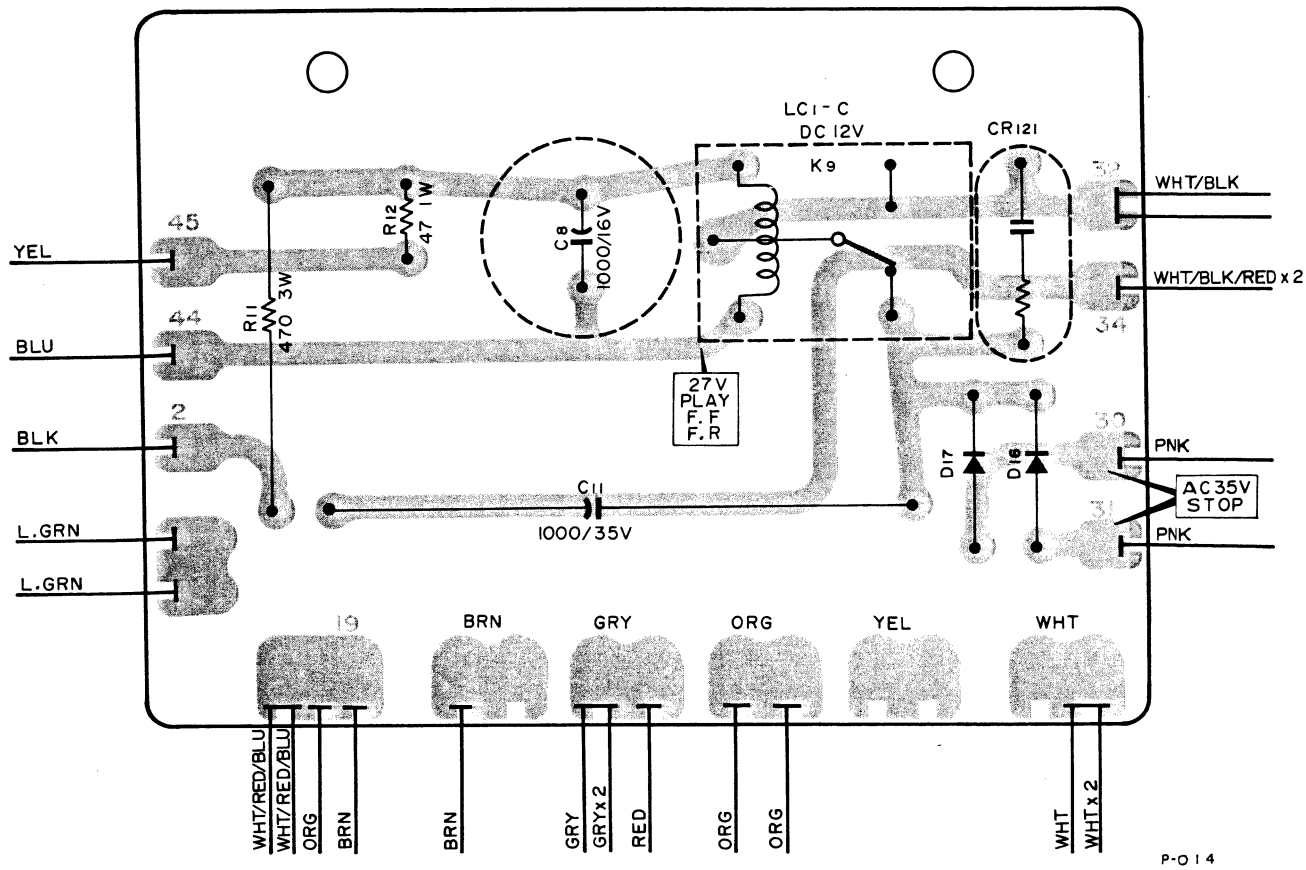



p-013

| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50491260 | PC Bd. Assy, Line Out/Phone Ampl. (*A-2300S*-4T) | |
| | 50490850 | " , " (*A-3300S*-4T) | |
| | 50491170 | " , " (*A-2300S*-2T) | |
| | 50490980 | " , " (*A-3300S*-2T) | |
| | 50484090 | PC Board | |
| | | SILICON TRANSISTORS | |
| Q201/204 | 50423870 | 2SC693-G | |
| Q202/205 | 50423800 | 2SA564-R | |
| Q203/206 | 50423830 | 2SC536-F | |
| | | CARBON RESISTORS | |
| R201/220 | 50513430 | 1kΩ 1/4W 10% | |
| R202/221 | 50518860 | 68kΩ " " | |
| R203/222 | 50513870 | 47kΩ " " | |
| R204/223 | 50513990 | 56kΩ " " | |
| R205/224 | 50513930 | 22kΩ " " | |
| R206/225 | 50513570 | 10kΩ " " | |
| R207/226 | 50513430 | 1kΩ " " | |
| R208/227 | 50513990 | 56kΩ " " | |

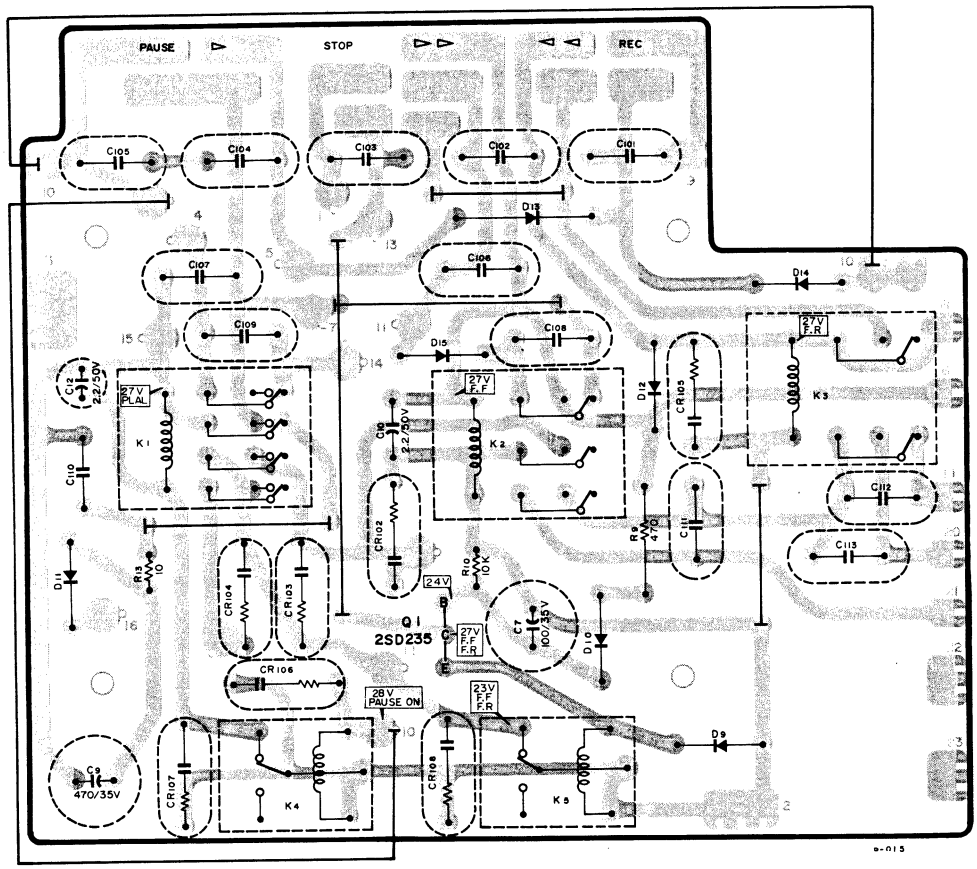
| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | | REVISION |
|---|---|---|---|---|
| R209/228 | 50513910 | 560Ω | 1/4W 10% | |
| R210/229 | 50513300 | 100Ω | " " | |
| R211/230 | 50513970 | 4.7kΩ | " " | |
| R212/231 | 50513930 | 22kΩ | " " | |
| R213/232 | 50513920 | 680Ω | " " | |
| R214/233 | 50513860 | 27kΩ | " " | |
| R215/234 | 50518870 | 82kΩ | " " | |
| R216/235 | 50513580 | 12kΩ | " " | |
| R217/236 | 50513960 | 3.3kΩ | " " | |
| R218/237 | 50513910 | 560Ω | " " | |
| R219/238 | 50518880 | 220kΩ | " " | |
| R239 | 50513320 | 150Ω | " " | |
| | TRIMMER RESISTORS | | | |
| VR201/203 | 50533460 | 4.7kΩ(B) | | |
| VR202/204 | 50533520 | 47kΩ(B) | | |
| | CAPACITORS | | | |
| C201/214 | 50549660 | Elec. | 1μF 25V | |
| C202/215 | 50546562 | Tant. | 10μF 16V | |
| C203/216 | 50548320 | Mylar | 0.001μF 50V | |
| C204/217 | 50554050 | Elec. | 10μF 16V | |
| C205/218 | 50548020 | Mylar | 0.01μF 50V | |
| C206/219 | 50554170 | Elec. | 100μF 25V | |
| C207/220 | 50547440 | Polyst. | 100pF 50V | |
| C208/221 | 50554230 | Elec. | 100μF 6.3V | |
| C209/222 | 50543820 | Polyst. | 22pF 50V | |
| C210/223 | 50554040 | Elec. | 10μF 25V | |
| C211/224 | 50554050 | Elec. | 10μF 16V | |
| C212/225 | 50554260 | Elec. | 33μF 16V | |
| C213/226 | 50554030 | Elec. | 47μF 6.3V | |
| C227 | 50554170 | Elec. | 100μF 25V | |
| | COILS | | | |
| L201/202 | 50566640 | Trap 220μH | | |
| | TRANSFORMERS | | | |
| T201/202 | 50562141 | Headphone 3kΩ:8Ω | | |

# 4. CONTROL RELAY-1



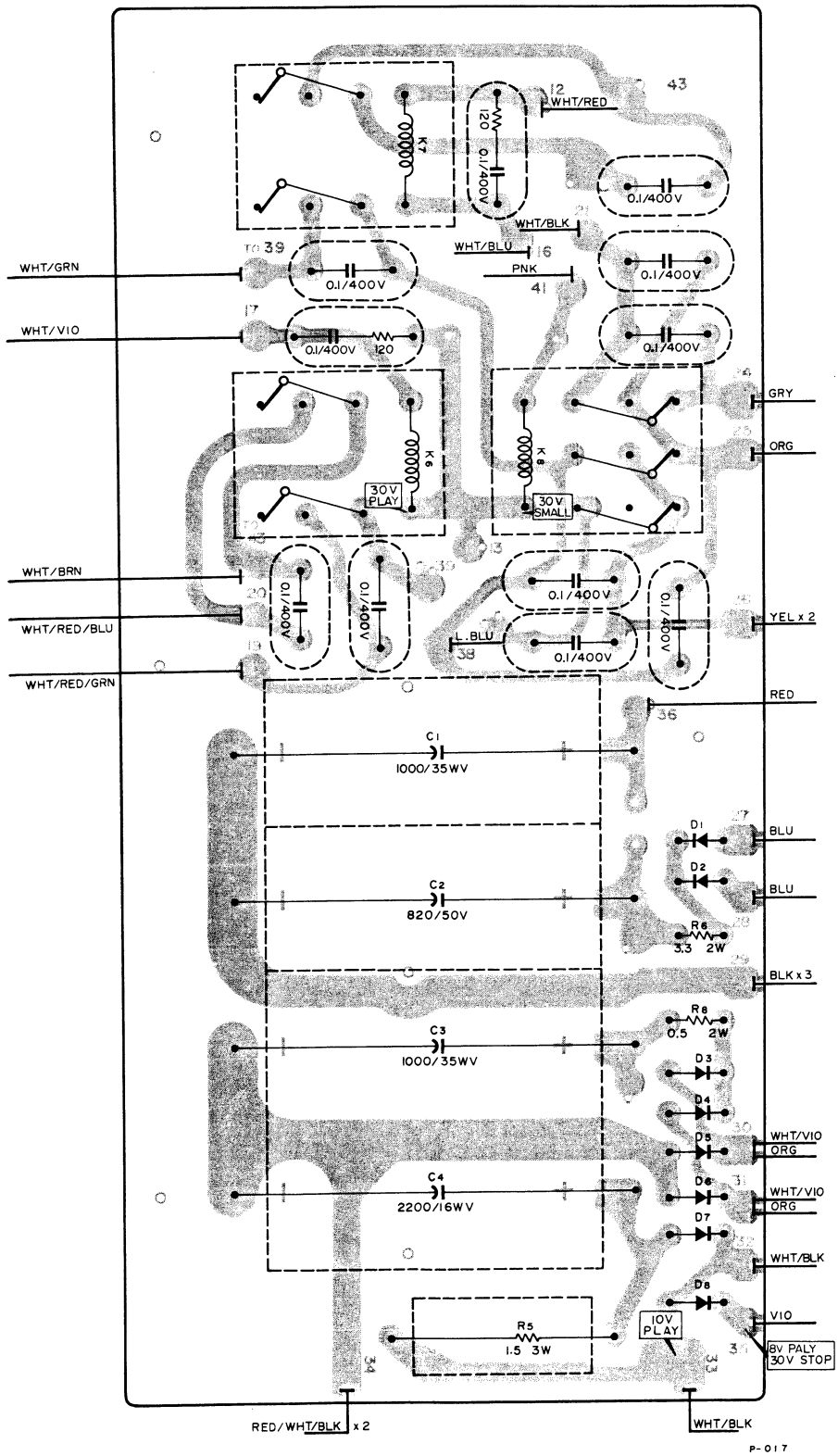

| CIRCUIT REF. NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50490912 | PC Bd. Assy, Control Relay-1 (*A-3300S*) | |
| | 50491190 | " , " (*A-2300S*) | |
| | 50484070 | PC Board | |
| K9 | 50611130 | Relay, LC1-C DC-12V | |
| D16•D17 | 50422560 | Diode, SIB01-02 | |
| R11 | 50527140 | R, Metallized 470Ω 3W | |
| R12 | 50526140 | R, Wire wound 47Ω 1/2W | |
| C8 | 50554890 | C, Elec. 1000μF 16V | |
| C11 | 50555110 | C, Elec. 1000μF 35V | |
| CR121 | 50529050 | Spark Killer, 0.1μF+120Ω 400V | |

# 5. CONTROL RELAY-2




| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50491020 | PC Bd. Assy, Control Relay-2 (*A-2300S*) | 51680651 (*From SER.No. 9681*) |
| | 50490890 | " , " (*A-3300S*) | |
| | 50484130 | PC Board (*A-2300S*) | 51670621 (*From SER.No. 9681*) |
| | " | " (*A-3300S*) | |
| Q1 | 50424620 | Transistor, 2SD235-Y | |
| K1 | 50611180 | Relay, MY4-0 DC-24V | |
| K2 | 50611120 | Relay, MY3-0 DC-24V | |
| K3 | 50611140 | Relay, MY2-0 DC-24V | |
| K4 | 50611150 | Relay, LC1-C DC-24V | |
| K5 | 50611170 | Relay, LC1-C DC-24V | |
| D9•10•11 | 50422560 | Diode, SIB01-02 | |
| D12•13 | 50422560 | Diode, SIB01-02 | |
| D14•15 | 50422560 | Diode, SIB01-02 | |
| R9 | 50574740 | R, Carbon 470Ω 1/2W | |
| R10 | 50570560 | R, Carbon 10kΩ 1/2W | |
| R13 | 50525720 | R, Wire Wound 10Ω 1/2W (*A-3300S* only) | |
| C7 | 50554630 | C, Elec. 100μF 35V | |
| C9 | 50554620 | C, Elec. 470μF 35V (*A-3300S* only) | |
| C10•12 | 50554980 | C, Elec. 2.2μF 50V | |
| C101∿105 | 50549920 | C, Mylar 0.1μF 400V | |
| C107∿113 | 50549920 | C, Mylar 0.1μF 400V | |
| VR102∿108 | 50529050 | Spark Killer 0.1μF+120Ω 400V | |

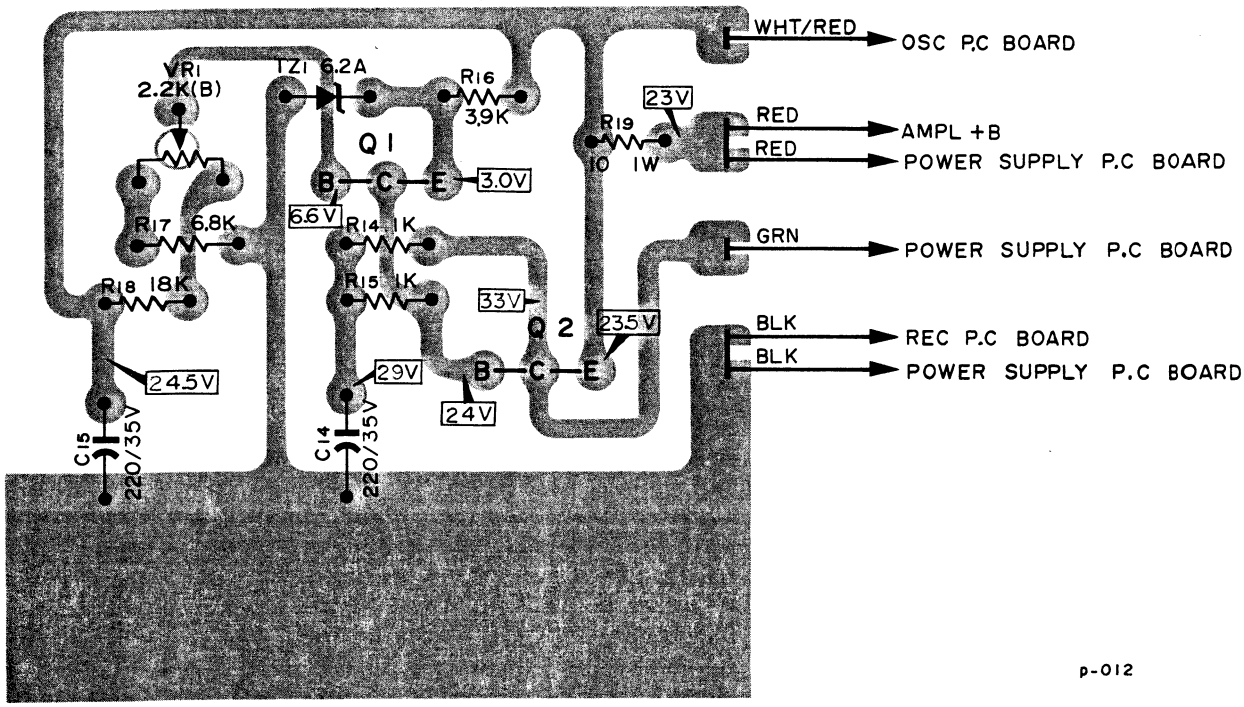
# 6. POWER SUPPLY



| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50490921 | PC Bd. Assy, Power Supply (*A-3300S*) | |
| | 50491031 | " , " (*A-2300S*) | |
| | 50484170 | PC Board | |
| K6 | 50611140 | Relay, MY2-0 DC-24V | |
| K7 | 50611160 | Relay, MY2-0 DC-24C (*A-3300S*) | |
| K8 | 50611120 | Relay, MY3-0 DC-24V (*A-3300S*) | |
| R5 | 50520340 | R, Cement 1.5Ω 3W | |
| R6 | 50525440 | R, Wire Wound 3.3Ω 1W | |
| R8 | 50526150 | R, Wire Wound 0.5Ω 2W | |
| D1∿D6 | 50422560 | Diode, SIB01-02 | |
| D7•D8 | 50422570 | Diode, SIB01-06 | |
| C1•C3 | 50555110 | C, Elec. 1000μF 35V | |
| C2 | [50555670]* | C, Elec.[820μF 50V]* | 1000μF 50V(*50555700*) |
| C4 | 50555660 | C, Elec. 2200μF 16V | |
| C301∿309 | 50548390 | C, Mylar 0.1μF 400V | |
| CR301∿303 | 50529050 | Spark Killer 0.1μF+120Ω 400V | |

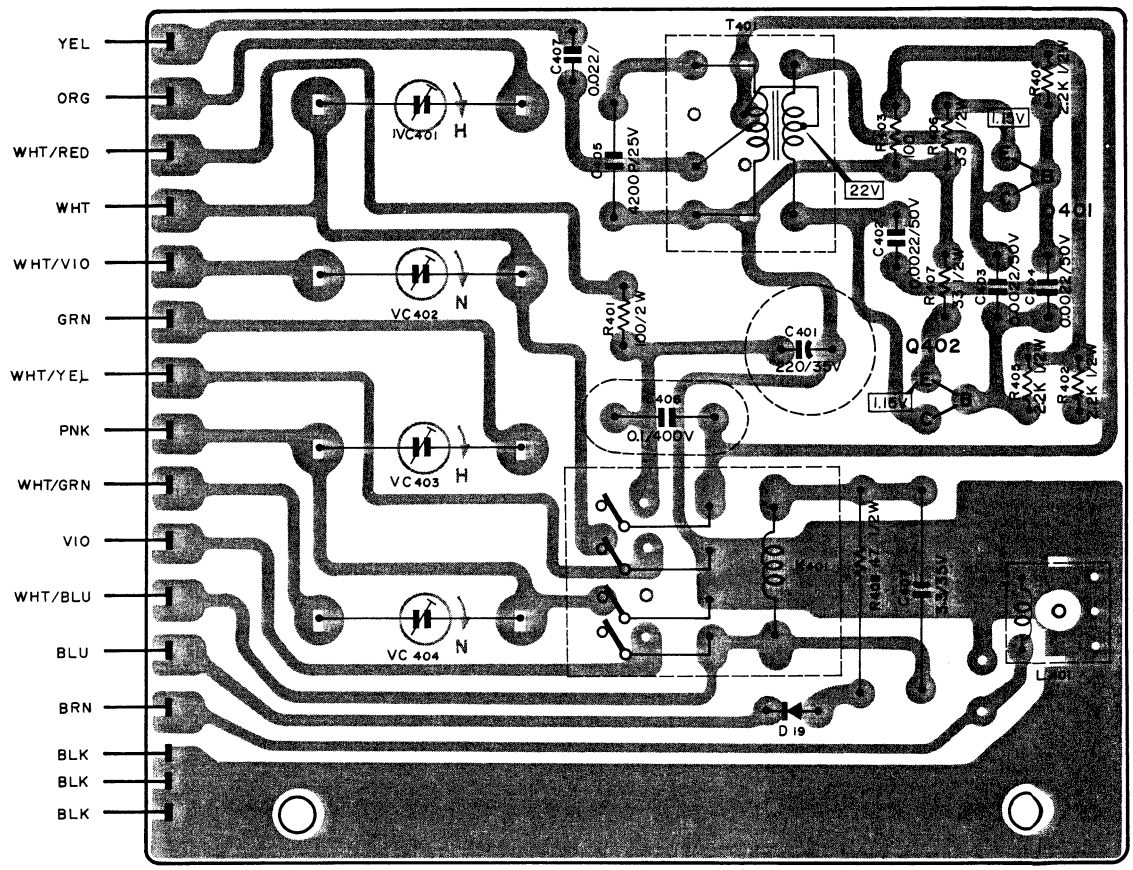
* Typographical error in original PARTS LIST. Do not order this number.

# 7. VOLTAGE REGULATOR




| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50491050 | PC Bd. Assy, Voltage Regulator | |
| | 50484200 | PC Board | |
| Q1 | 50423510 | Transistor, 2SC733-Y | |
| Q2 | 50424270 | Transistor, 2SD317-P | |
| VR1 | 50533640 | Trimmer Resistor, 2.2kΩ(B) | |
| TZ1 | 50422580 | Diode, 02Z 6.2A | |
| R14 | 50515340 | R, Carbon 1kΩ 1/4W | |
| R15 | 50515340 | R, Carbon 1kΩ 1/4W | |
| R16 | 50515430 | R, Carbon 3.9kΩ 1/4W | |
| R17 | 50515490 | R, Carbon 6.8kΩ 1/4W | |
| R18 | 50515520 | R, Carbon 18kΩ | |
| R19 | 50526120 | R, Wire Wound 10Ω 1W | |
| C14 | 50554380 | C, Elec. 220μF 35V | |
| C15 | 50554380 | C, Elec. 220μF 35V | |

# 8. BIAS OSCILLATOR




| CIRCUIT REF.NO. | ORIGINAL PARTS NO. | DESCRIPTION | REVISION |
|---|---|---|---|
| | 50490870 | PC Bd. Assy, Bias Oscillator | |
| | 50484110 | PC Board | |
| Q401·402 | [50423850]* | Transistor[2SC971]* | 2SC1384(*50414750*) |
| T401 | 50563170 | Coil, Oscillator | |
| K401 | 50611180 | Relay, DC 24V, MY4-0 4T | |
| D19 | 50422560 | Diode, SIB01-02 | |
| VC401/402 | 50547070 | Trimmer Capacitor, 80pF | |
| VC403/404 | 50547070 | Trimmer Capacitor, 80pF | |
| C401 | 50554380 | C, Elec. 220μF 35V | |
| C402/403 | 50548760 | C, Mylar 0.0022μF 50V | |
| C404 | 50548810 | C, Mylar 0.0033μF 50V | |
| C405 | 50544040 | C, Polyst. 4200pF 250V | |
| C406 | 50549920 | C, Elec. 0.1μF 400V | |
| C406 | 50548740 | C, Mylar 0.022μF 150V | |
| C407 | 50555680 | C, Elec. 3.3μF 35V | |
| R401 | 50526050 | R, Wire Wound 33Ω 2W | |
| R402 | 50516380 | R, Carbon 2.2kΩ 1/2W | |
| R403 | 50516220 | R, Carbon 100Ω 1/2W | |
| R404·405 | 50515380 | R, Carbon 2.2kΩ 1/4W | |
| R406·407 | 50516150 | R, Carbon 33Ω 1/2W | |
| R408 | 50514860 | R, Carbon 47Ω 1/2W | |
| L401 | 50566680 | Coil, Dummy Load 2.1mH | |

* Typographical error in original PARTS LIST. Do not order this number.

# MANUAL CHANGES

Change notices, recommended modifications etc. will be issued for the models in this manual, when appropriate. These changes are in loose leaf form and should be filed behind this page for convenient reference.

# SERVICE MANUAL REVISION NOTICE

TEAC Models (A-)2300S and (A-)3300S have had significant design changes in parts and circuitry, effective from Serial Numbers given below. These changes effect the Bias Adjustment Procedures for the applicable units; revised procedures are given in this Notice.

Modification was effective from the following Serial Numbers.

(A-)2300S (4T) #10481 [first change] #14881 [second change]
(A-)2300S 2T #15881
(A-)3300S (4T) #8881 [first change] #11881 [second change]
(A-)3300S 2T #12381

IMPORTANT: BEFORE PERFORMING THE "BIAS ADJUSTMENT PROCEDURES" and BEFORE ORDERING PARTS for any (A-)2300S or (A-)3300S, COMPARE THE SERIAL NUMBER WITH THOSE ABOVE.
If the number is higher than those given, new parts numbers are applicable and the Bias Adjustment Procedure is greatly changed for the 4T models.

SUMMARY OF THE CHANGES

From the first change, alignment tape for recording adjustments was changed to TEAC Test Tape YTT-8003. This tape should be available from your distributor soon. Its characteristics are identical with the Fuji brand, type FB-151 recording tape.

Circuitry has been changed in the Record Level, Record Equalization, and Playback Equalization circuitry to optimize performance at the HIGH position of the BIAS switch. Head contour is changed, but material is identical.

Bias adjustment procedures are changed only for the 4 track head configuration models, and only for those units following the applicable serial numbers indicated.

## REVISED - BIAS ADJUSTMENT PROCEDURE

[Applicable for (A-)2300S (4T) from Serial #10481 and for (A-)3300S-(4T) from Serial #8881 only.]

NOTE: Adjust the Bias Traps before proceding.
Bias oscillator frequency is 100 kHz ±5 kHz.
Bias Adjustment is performed only at the Tape Speed of 3-3/4ips (9.5 cm/s).

Preparation:

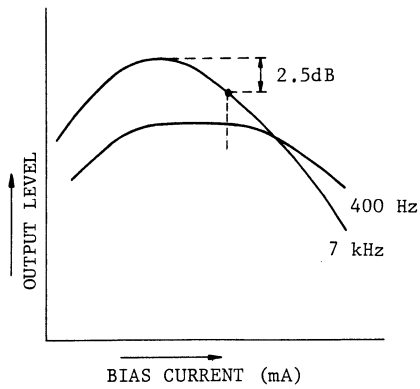
1. Thread a recording Test Tape YTT-8003 (Fuji FB-151) on the unit.
2. Set the controls on the deck as outlined below:
   a. SPEED SW → 3-3/4ips (9.5 cm/s)
   b. MONITOR SW → TAPE
   c. BIAS SW → HIGH
   d. EQ SW → HIGH
   e. OUTPUT Level Controls - Specified Setting

Procedures:

3. Apply a 7 kHz signal at -18 dB (10 dB below the Specified Input Level) to the LINE IN jacks.
4. While recording, adjust capacitor VC-401/403 for a peak reading on the Test Set. From that peak, turn the capacitor clockwise until a decrease of 2.5 dB is obtained. (N.B.: Will be overbiased as preferred.)

IMPORTANT: These revised procedures, using the YTT-8003 tape, must be used with the other procedures in the basic SERVICE MANUAL. They replace the BIAS ADJUSTMENT procedures only for units with the applicable serial numbers given above.

NOTE: Several component changes exist in the units affected by this change. See the accompanying changes listed on other sheets of this SERVICE MANUAL REVISION NOTICE for details which you should note in the PARTS LIST and SCHEMATIC DIAGRAMS of your basic manuals.




BIAS Limits Chart

PARTS COMPARISON CHART

This chart is to assist comparison of the original parts with those used after the design changes. When ordering parts, note these points:

1. Always include the complete model number and serial number.
2. There is no interchangeability between the various Record or Playback heads; use only the part number specified for the given serial number.
3. This factory change should not be perfomed at any level on those units not having it; this is not a modification.

## A-2300S/A-3300S 2 TRACK

| MODELS | A-2300S | | A-3300S | |
|---|---|---|---|---|
| Beginning with SERIAL NUMBER | (1st prod.) #2301 | #15881 | (1st prod.) #3326 | #12381 |
| Head | | | | |
| Record | 50665040 | 50662150 | 50665040 | 50662120 |
| Playback | 50668050 | 50662250 | 50668050 | 50662220 |
| Blank Tape | | | | |
| HIGH | SCOTCH 203 | YTT-8003 | SCOTCH 203 | YTT-8003 |
| NORMAL | SCOTCH 150 | SCOTCH 150 | SCOTCH 150 | SCOTCH 150 |
| Circuit REF.NO. | | | | |
| R108/127 | 560Ω | 560Ω | 560Ω | 560Ω |
| R116/135 | 680kΩ | 270kΩ | 680kΩ | 470kΩ |
| R117/136 | 120kΩ | 120kΩ | 120kΩ | 120kΩ |
| R118/137 | 120kΩ | 120kΩ | 120kΩ | 120kΩ |
| C111/124 | 0.22μF | 0.22μF | 0.22μF | 0.22μF |
| C112/125 | 0.22μF | 0.22μF | 0.22μF | 0.22μF |
| VR101/103 | 6.8k(B) | 10k(B) | 6.8k(B) | 6.8k(B) |
| VR102/104 | 6.8k(B) | 6.8k(B) | 6.8k(B) | 6.8k(B) |
| R315/342 | 18kΩ | 6.8kΩ | 18kΩ | 6.8kΩ |
| R322/349 | Jumper | 100Ω | 33Ω | 180Ω |
| C306/324 | 0.082μF | 0.056μF | 0.056μF | 0.082μF |
| C310/328 | 0.039μF | 0.027μF | 0.027μF | 0.033μF |
| C314/332 | 0.022μF | 0.015μF | 0.012μF | 0.0068μF |
| C315/333 | 0.056μF | 0.022μF | 0.027μF | 0.022μF |

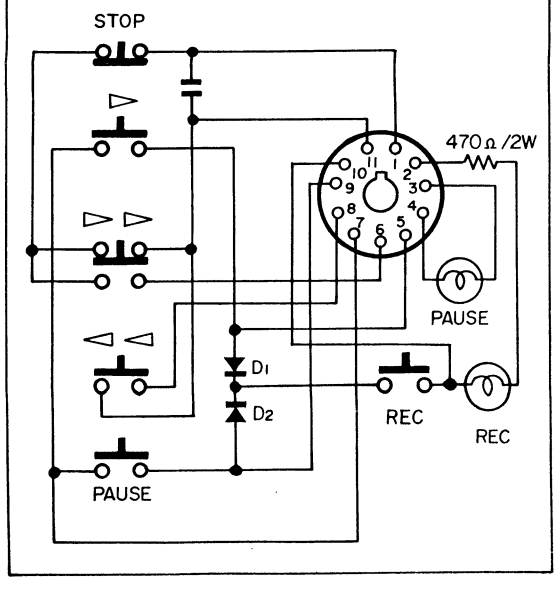
# A-2300S/A-3300S 4TRACK

| SERIAL NUMBER | Beginning with 1st Prod. | Beginning with Serial No. | Beginning with Serial No. |
|---|---|---|---|
| A-2300S(4T) | #2731 | #10481 | #14881 |
| A-3300S(4T) | #3301 | #8881 | #11881 |
| Head | | | |
| Record | 50666040 | 50664480 | 50663140 |
| Playback | 50669040 | 50664490 | 50663240 |
| Blank Tape | | | |
| HIGH | SCOTCH 203 | YTT-8003 | YTT-8003 |
| NORMAL | SCOTCH 150 | SCOTCH 150 | SCOTCH 150 |
| Circuit REF.NO. | | | |
| * R108/127 | 220Ω | 330Ω | 330Ω |
| R116/135 | 680kΩ | 270kΩ | 180kΩ |
| R117/136 | 120kΩ | 120kΩ | 33kΩ |
| R118/137 | 120kΩ | 120kΩ | 33kΩ |
| C111/124 | 0.22μF | 0.22μF | 1.0μF |
| C112/125 | 0.22μF | 0.22μF | 1.0μF |
| VR101/103 | 6.8k(B) | 6.8k(B) | 6.8k(B) |
| VR102/104 | 15k(B) | 15k(B) | 15k(B) |
| R315/342 | 18kΩ | 6.8kΩ | 6.8kΩ |
| R322/349 | Jumper | 150Ω | 150Ω |
| C306/324 | 0.082μF | 0.056μF | 0.047μF |
| C310/328 | 0.039μF | 0.027μF | 0.027μF |
| C314/332 | 0.033μF | 0.033μF | 0.033μF |
| C315/333 | 0.047μF | 0.033μF | 0.033μF |

* A-2300S only

TAPE SPEED H L
C401
RED
BLU
S12a
C402
C403
BRN
GRY
S12b
C404
ORG
M1 CAPSTAN MOTOR
C5 2+08μ
YEL
S14a
Hz SW
24
K2c
C111
K1d
C114
R1 100 (20HA)
42
C112
K3b
C113
R2 400 (20HA)
43
R4 600 (40H)
ORG
YEL
RED
BRN
M2 RIGHT REEL MOTOR
S14b
ORG
BRN
RED
YEL
M3 LEFT REEL MOTOR
S14c
C6 (3+1μ)x2
20
a
SAFETY SW
S2
C405
R6 3.3 (2W)
Q1 2SD317
Q2 2SC733(Y)
R14 1K
R16 3.9K
R15 1K
R18 18K
VR1 2.2K (B)
R17 6.8K
C15 220 35V
R19 10
C16 1000 25V
D1
D2
C13 820 50V
C14 220 35V
37
36
29
14
2
12
7
10
TO AMP
FUSE
2A
AC POWER IN
S1
POWER
117V
100V
70V
0V
T1
27
28
5.5V
11.5V x2
C109
K1a
3
POWER REC PAUSE LAMPS
4
C406
S3
34
2
30
R5 1.5 (3W)
R8 0.5 (2W)
D3
D4
D5
D6
31
C3 1000/35V
C11 1000/35V
C4 2200/16V
D16
D17
46
CR121
K9
D7
35
CAPSTAN SOL.
D8
D18
32
13
K5 DELAY
Q1
D9
R10 10K
C7 220μ/35V
D10
R9 470
17
CR103
D18
K1c
12
CR108
K5
K9 SOLENOID START
C8 1000/16V
R11 470 (5W)
S11
C409
BRAKE SOL.
K2b
CR102
C408
R12 47 (1/2W)
STOP
S4
C103
1
2
3
4
5
6
7
8
9
10
11
REMOTE/TIMER CONTROL
S7
C104
C410
S10
5
K1 OPERATION
C12 2.2/50V
CR107
K4
15
REC
D13
PAUSE
D14
S8
S9
C101
C105
K1b
C107
7
10
9
K4 PAUSE
CR106
D15
C108
S5
K2a
C106
6
K2 FAST FORWARD
C10 2.2/50V
C102
S6
a'
K3a
D12
8
K3 REWIND
CR105
S-011

REMOTE CONTROL
SCHEMATIC DIAGRAM



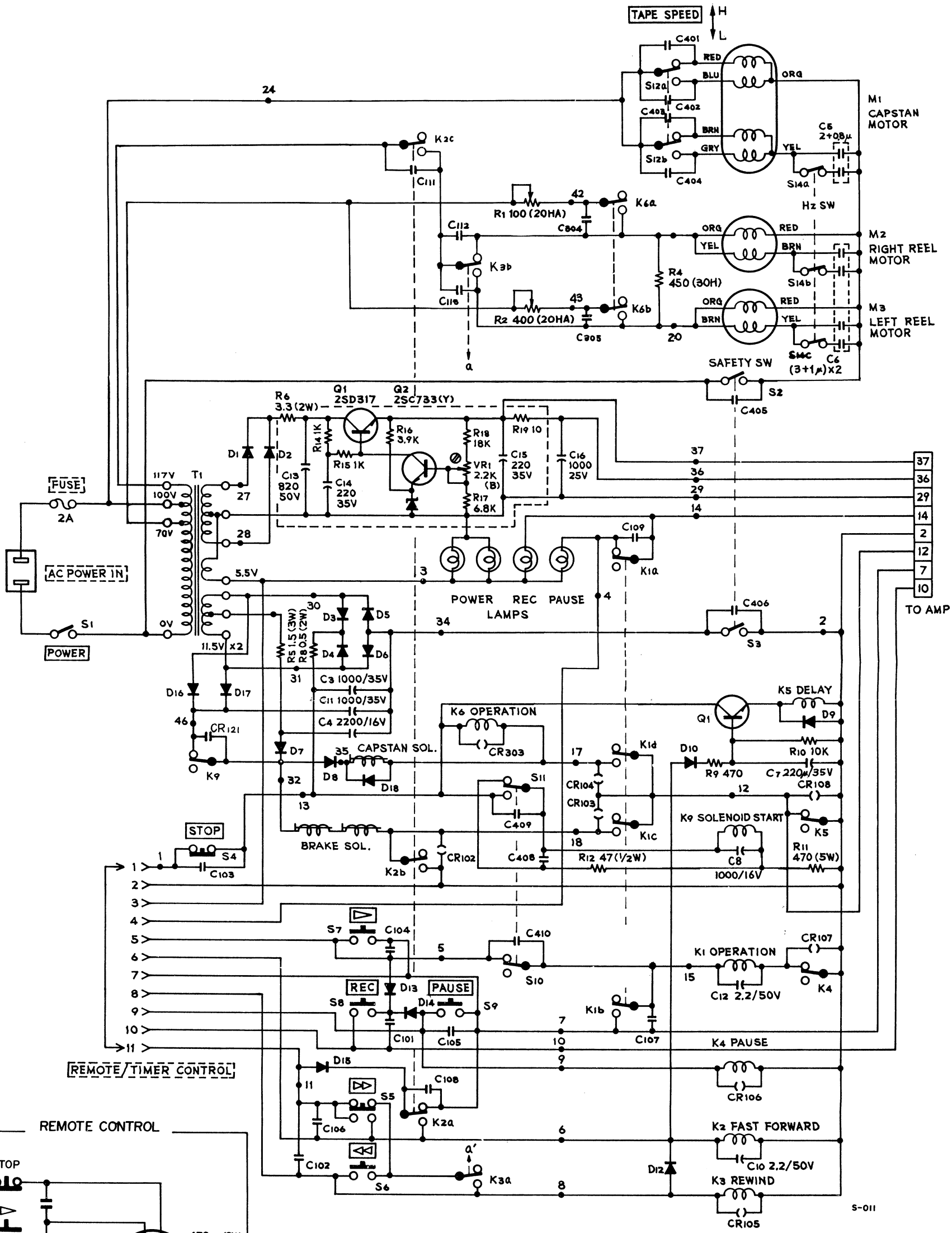

NOTES

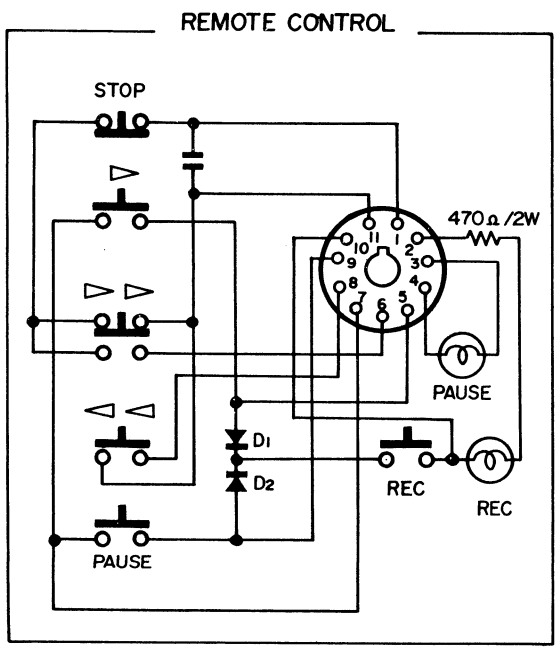
All relays shown not energized (stop mode)
TAPE SPEED switch shown in the HIGH position
Frequency conversion switch shown in the 50 Hz position
On front panel
On rear panel
—()— : Spark killer 0.1+120/400WV
⊘ : Screwdriver adjustment
—||— : 0.1/400WV
D1~6, D9~14, D16~17 : SIB01-02
D7, D8 : SIB01-06

AFTER SERIAL NO.9681

| REVISION | DATE | CHANGE NO. |
|---|---|---|
| 6 | · | |
| 5 | · | |
| 4 | · | |
| 3 | · | |
| 2 | · | |
| 1 | · | E-605 |

STEREO TAPE DECK
TAPE TRANSPORT
MODEL NO. A-2300S
SHEET NO.
TEAC CORPORATION




NOTES

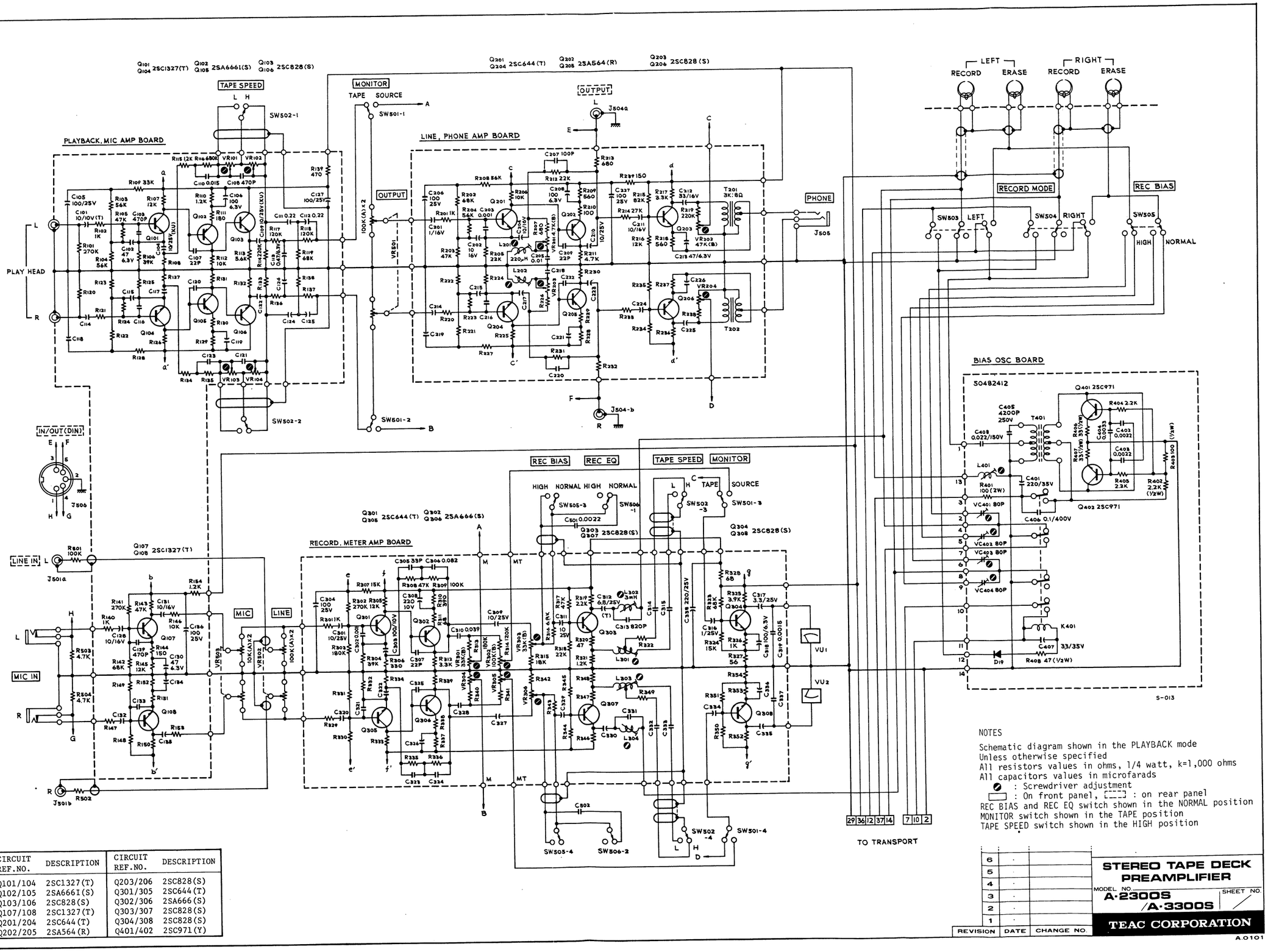
All relays shown not energized (stop mode)
TAPE SPEED switch shown in the HIGH position
Frequency conversion switch shown in the 50 Hz position
▭ On front panel
▭ On rear panel
—()— : Spark killer 0.1+120/400WV
⊘ : Screwdriver adjustment
—||— : 0.1/400WV
D1~6, D9~14, D16~17 :SIB01-02
D7, D8 :SIB01-06

| REVISION | DATE | CHANGE NO. |
|---|---|---|
| 6 | | |
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | | |
| 1 | | |

**STEREO TAPE DECK**
**TAPE TRANSPORT**

MODEL NO. **A-2300S** SHEET NO.

**TEAC CORPORATION**




| CIRCUIT REF.NO. | DESCRIPTION | CIRCUIT REF.NO. | DESCRIPTION |
|---|---|---|---|
| Q101/104 | 2SC1327(T) | Q203/206 | 2SC828(S) |
| Q102/105 | 2SA6661(S) | Q301/305 | 2SC644(T) |
| Q103/106 | 2SC828(S) | Q302/306 | 2SA666(S) |
| Q107/108 | 2SC1327(T) | Q303/307 | 2SC828(S) |
| Q201/204 | 2SC644(T) | Q304/308 | 2SC828(S) |
| Q202/205 | 2SA564(R) | Q401/402 | 2SC971(Y) |

| MODELS | A-2300S(2T) | | A-3300S(2T) | | A-2300S(4T)/A-3300S(4T) | | | |
|---|---|---|---|---|---|---|---|---|
| SERIAL No. | #2301 | | #15861 | | #3326 | | #12381 | |
| CIRCUIT REF No. | | | | | | | | |
| R108/127 | 560Ω | | 560Ω | | 560Ω | | 560Ω | |
| R109/135 | 470kΩ | | 470kΩ | | 470kΩ | | 470kΩ | |
| R116/136 | 680kΩ | | 680kΩ | | 680kΩ | | 680kΩ | |
| R118/137 | 120kΩ | | 120kΩ | | 120kΩ | | 120kΩ | |
| C111/124 | 0.22μF | | 0.22μF | | 0.22μF | | 0.22μF | |
| C112/125 | 0.22μF | | 0.22μF | | 0.22μF | | 0.22μF | |
| VR101/103 | 10k(B) | | 10k(B) | | 6.8k(B) | | 6.8k(B) | |
| VR102/104 | 6.8k(B) | | 6.8k(B) | | 6.8k(B) | | 6.8k(B) | |
| R315/342 | 18kΩ | | Jumper | | 18kΩ | | 18kΩ | |
| R322/349 | 100Ω | | 100Ω | | 330Ω | | 180Ω | |
| C306/324 | 0.082μF | | 0.056μF | | 0.056μF | | 0.056μF | |
| C310/328 | 0.039μF | | 0.039μF | | 0.039μF | | 0.039μF | |
| C311/329 | 0.033μF | | 0.033μF | | 0.033μF | | 0.033μF | |
| C315/333 | 0.056μF | | 0.047μF | | 0.047μF | | 0.047μF | |

| MODELS | A-2300S(2T) | | A-3300S(2T) | | A-2300S(4T)/A-3300S(4T) | | | |
|---|---|---|---|---|---|---|---|---|
| SERIAL No. | #2301 | | #15861 | | #3326 | | #12381 | |
| CIRCUIT REF No. | | | | | | | | |
| R108/127 | 560Ω | | 560Ω | | 560Ω | | 560Ω | |
| R109/135 | 470kΩ | | 470kΩ | | 470kΩ | | 470kΩ | |
| R116/136 | 680kΩ | | 680kΩ | | 680kΩ | | 680kΩ | |
| R118/137 | 120kΩ | | 120kΩ | | 120kΩ | | 120kΩ | |
| C111/124 | 0.22μF | | 0.22μF | | 0.22μF | | 0.22μF | |
| C112/125 | 0.22μF | | 0.22μF | | 0.22μF | | 0.22μF | |
| VR101/103 | 10k(B) | | 10k(B) | | 6.8k(B) | | 6.8k(B) | |
| VR102/104 | 6.8k(B) | | 6.8k(B) | | 6.8k(B) | | 6.8k(B) | |
| R315/342 | 18kΩ | | Jumper | | 18kΩ | | 18kΩ | |
| R322/349 | 100Ω | | 100Ω | | 330Ω | | 180Ω | |
| C306/324 | 0.082μF | | 0.056μF | | 0.056μF | | 0.056μF | |
| C310/328 | 0.039μF | | 0.039μF | | 0.039μF | | 0.039μF | |
| C311/329 | 0.033μF | | 0.033μF | | 0.033μF | | 0.033μF | |
| C315/333 | 0.056μF | | 0.047μF | | 0.047μF | | 0.047μF | |
| | A-2300S→#2731 | | A-3300S→#3301 | | | | | |
| | ※220Ω | | ※330Ω | | ※330Ω | | | |
| | 680kΩ | | 270kΩ | | 180kΩ | | | |
| | 120kΩ | | 120kΩ | | 33kΩ | | | |
| | 120kΩ | | 120kΩ | | 33kΩ | | | |
| | 0.22μF | | 0.22μF | | 1.0μF | | | |
| | 0.22μF | | 0.22μF | | 1.0μF | | | |
| | 6.8k(B) | | 6.8k(B) | | 6.8k(B) | | | |
| | 15k(B) | | 15k(B) | | 15k(B) | | | |
| | 18kΩ | | 6.8k | | 6.8k | | | |
| | 0.082μF | | 0.056μF | | 0.047μF | | | |
| | 0.039μF | | 0.027μF | | 0.027μF | | | |
| | 0.033μF | | 0.033μF | | 0.033μF | | | |
| | 0.047μF | | 0.033μF | | 0.033μF | | | |
| | | | #10481 | | #14881 | | | |

NOTES ※ : A2300S only

NOTES

Schematic diagram shown in the PLAYBACK mode
Unless otherwise specified
All resistors values in ohms, 1/4 watt, k=1,000 ohms
All capacitors values in microfarads
● : Screwdriver adjustment
▭ : On front panel, ▭ : on rear panel
REC BIAS and REC EQ switch shown in the NORMAL position
MONITOR switch shown in the TAPE position
TAPE SPEED switch shown in the HIGH position

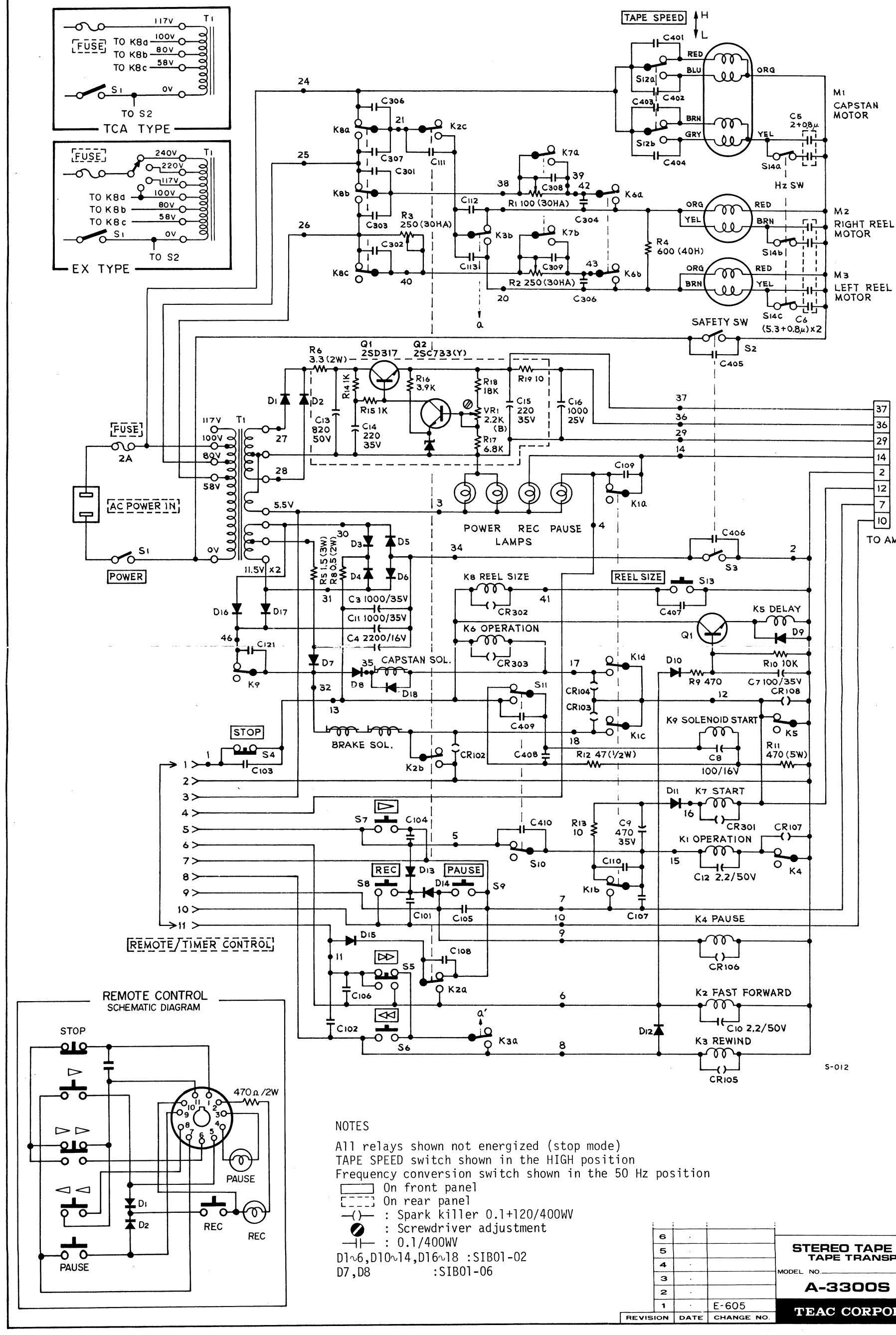
| REVISION | DATE | CHANGE NO. |
|---|---|---|
| 6 | | |
| 5 | | |
| 4 | | |
| 3 | | |
| 2 | | |
| 1 | | |

**STEREO TAPE DECK PREAMPLIFIER**

MODEL NO. **A-2300S /A-3300S** SHEET NO.

**TEAC CORPORATION**

A0101




NOTES

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TAPE SPEED switch shown in the HIGH position
Frequency conversion switch shown in the 50 Hz position
On front panel
On rear panel
—( )— : Spark killer 0.1+120/400WV
: Screwdriver adjustment
—⊣⊢— : 0.1/400WV
D1∿6,D10∿14,D16∿18 :SIB01-02
D7,D8 :SIB01-06

| REVISION | DATE | CHANGE NO. |
|---|---|---|
| 6 | · | |
| 5 | · | |
| 4 | · | |
| 3 | · | |
| 2 | · | |
| 1 | · | E-605 |

**STEREO TAPE DECK**
**TAPE TRANSPORT**
MODEL NO. A-3300S
SHEET NO.
**TEAC CORPORATION**